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VAN DIE REDAKSIE

OKSITOSIEN EN VASOPRESSIEN

DIE SAMESTELLING EN SINTESE VAN AKTIEWE WEEFSELPOLIPEPTIEDE

In 'n boek[1] wat onlangs verskyn het, word 'n nuttige oorsig van weefselpolipeptiede voorgelê. Benewens die prikkeling van die gladde spiere het sommige polipeptiede nog ander farmakologiese uitwerkings. Die meeste van hierdie stowwe is egter nog nie in suiwer vorm geïsoleer nie en ons inligting op hierdie gebied is nog onvolledig. Die vorming en verspreiding van twee welbekende aktiewe polipeptiede, nl. oksitosien en vasopressien, word bespreek. Heller[2] het onlangs 'n meer breedvoerige oorsig van hierdie twee hormone gelewer, en weens die rasse vordering in die navorsing i.v.m. hierdie stowwe en die feit dat ons inligting oor hierdie onderwerp tot dusver onsamehangend is, is hierdie werk baie welkom.

Alhoewel die oksitosien- en die pressor-antidiuretiese bestanddele van die agterhipofise-ekstrakte al baie jare gelede geskei is, was dit nietemin besef dat die skei en purifikasie nie suiwer verbindings opgelewer het nie. Eers toe die metodes van teenstroomdistribusie bruikbaar geword het, is die verskaffing van sulke suiwer verbindings moontlik gemaak. Die belangrikste werk i.v.m. die isoleer van suiwer polipeptiede uit ekstrakte van die agterhipofise, asook 'n verduideliking van hul struktuur en sintese, is in die mediese skool van die Universiteit Cornell deur du Vigneaud en sy medewerkers gelewer.

Selfs toe hul materiaal nog maar gedeeltelik gesuiwer was, het die navorsers al bewys dat daar slegs aminosure aanwesig was. Daarna is dit bewys dat die aktiewe polipeptiede ook swawel in organiese verbinding bevat, en dat aktiwiteit op die vry sulfidriliese groepering berus. Navorsing van die oksitosienbestanddeel deur middel van die teenstroomdistribusie- en chromatografiese metodes het eerste aan die beurt gekom. Dit is bevind dat oksitosien die volgende 8 aminosure bevat: leusien, isoleusien, tirosien, prolien, glutamiensuur,

EDITORIAL

OXYTOCIN AND VASOPRESSIN

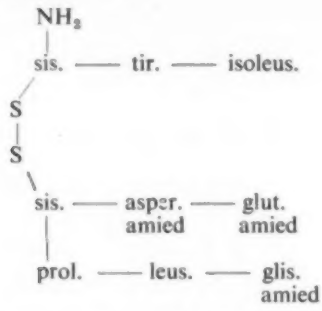
THE COMPOSITION AND SYNTHESIS OF ACTIVE TISSUE POLYPEPTIDES

In a recent book[1] a useful review is presented of polypeptides obtained from tissues. Besides stimulating smooth muscle some of them have other pharmacological actions. Most of these substances have not been isolated in pure form and information about them is incomplete. The formation and distribution of two well-known active polypeptides, namely oxytocin and vasopressin, is discussed. A lengthier review on these two hormones has recently been written by Heller[2] and is most welcome in view of the rapid progress in research on these substances and the scattered nature of information on the subject.

Although the separation of the oxytocic and pressor-antidiuretic principles of extracts of the posterior pituitary gland was achieved many years ago, it was realized that the separation and purification did not provide pure compounds. This became possible when the methods of counter-current distribution became available. The most important work in the isolation of pure polypeptides from posterior pituitary extracts, the elucidation of their structure and their synthesis has been done by du Vigneaud and co-workers at Cornell University Medical School.

Even when working with partly purified material investigators had demonstrated that only amino acids were present. Then it was shown that the active polypeptides contain sulphur in organic linkage and that activity depends on the free sulphydryl grouping. The oxytocic principle was first investigated by the method of the counter-current distribution and by chromatographic methods, and was found to contain the following 8 amino acids: leucine, isoleucine, tyrosine, proline,

aspertiensuur, glisien en sistien. Hulle rangskikking mag as volg voorgestel word:



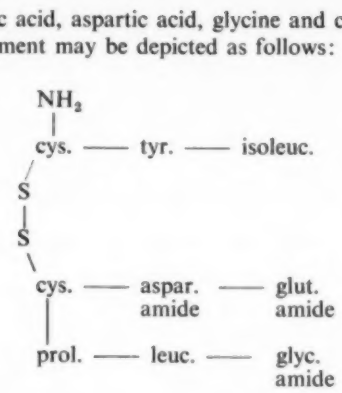
Die werksame bestanddeel, oksitosien, is 'n betreklik eenvoudige oktapeptied en is al sinteties saamgestel; dit was dan ook die eerste sintese van 'n aktiewe weefselpolipeptied waarmee sukses behaal is.

Die suiwering van vasopressien, afkomstig van die agterhipofise van osse, het daartoe gelei dat 'n kragtige stof verkry is. Ontleding het getoon dat dit 8 aminosure, nl. fenielalanien, tirosien, prolien, glutamiensuur, glisien, arginien en sistien bevat—d.w.s. 6 van die aminosure wat in vasopressien voorkom, word ook in oksitosien gevind. Later is dit bevind dat varkvasopressien lisien in plaas van arginien bevat. Die aminosuurvolgorde van vasopressien waarin arginien voorkom verskil van die voorafgaande oksitosienformule in die opsig dat fenielalanien instede van isoleusien, en arginien instede van leusien aangetref word; insgelyks ook lisienbevattende vasopressien. Du Vigneaud en sy medewerkers het 2 jaar gelede die sintese van vasopressien gerapporteer.

Dit word nou gemeen dat die ondertalamuskerns die oorsprong van hierdie werksame bestanddele is. Hulle word hoofsaaklik in die bo-gesig- en newekamerkerns van die brein verwerk, en gaan dan langs die senuuitlopers na die agterlob van die hipofise. Hier word hulle opgegaar om later wanneer daar behoefte aan is, losgelaat te word. Dit was nog altyd moeilik om die mening voor te staan dat die oorsprong van endokrienbestanddele wel sy setel in die selle van die agterhipofise het. Op grond daarvan dat ‚afskeidende senuselle' in die ondertalamus van die mens en ook van ander diere gevind word, en ook as gevolg van ander bevestigende bevindings, is dit vasgestel dat die ondertalamus- en neurohipofisestelsel 'n morfologiese en funksionele geheel is.

Dit is nog nie presies vasgestel in watter vorm oksitosien en vasopressien (deur die selle) afgeskei word nie. Sommige navorsers is die mening toegedaan dat die aktiewe bestanddele afsonderlik in die klier voorkom en dan ook afsonderlik vrygestel kan word; ander dink weer dat daar 'n groot molekuul met neurohipofisewerkings in beide die agterlob en die urine, en miskien ook in die bloed, voorkom. Hierdie twee stellings word geeneen onweerspreekbaar deur beskikbare navorsingsbevindings,[1,2] gestaaf nie. Dit blyk egter dat beide hormone vrygestel word alhoewel slegs een nodig mag wees, maar dit is nie bekend of hulle deur die

glutamic acid, aspartic acid, glycine and cystine. Their arrangement may be depicted as follows:



This active principle, oxytocin, a relatively simple octapeptide, has been synthesized; this was the first synthesis of an active tissue polypeptide to be successfully accomplished.

The purification of vasopressin from posterior pituitary glands of oxen led to potent material being obtained and on analysis 8 amino acids were shown to be present, namely phenylalanine, tyrosine, proline, glutamic acid, aspartic acid, glycine, arginine, and cystine; thus 6 of the amino acids present in vasopressin are also present in oxytocin. Later it was shown that hog vasopressin contains lysine instead of arginine. The amino acid sequence for arginine vasopressin differs from that depicted in the above formula for oxytocin in the substitution of phenylalanine for isoleucine, and arginine for leucine; and similarly for lysine vasopressin. Two years ago du Vigneaud and his associates reported the synthesis of vasopressin.

The source of these active principles is now believed to be the hypothalamic nuclei. They are elaborated principally in the supra-optic and paraventricular nuclei and then travel along the axones to the posterior lobe of the pituitary gland, where they are stored and then liberated as required. It has always been difficult to believe that the posterior pituitary cells are the site of origin of endocrine factors. The demonstration of 'neurosecretory cells' in the hypothalamus, in man as well as in other animals, and other evidence, has established the hypothalamo-neurohypophysial system as a morphological and functional entity.

The form in which oxytocin and vasopressin are secreted is not fully established. Some workers have held that the active materials occur as separate entities in the gland and can be separately released; others believe there is a large molecule with neurohypophysial activities, not only in the posterior lobe but also in urine and perhaps in blood. The available evidence[1,2] does not offer undisputed support for either of these two hypotheses. It appears that both hormones are liberated although only one may be required but it is not known whether the neurohypophysis liberates them as separate polypeptides or associated with a protein.

neurohipofise as aparte polipeptiede, of geassosieer met 'n proteïen, bevry word nie. Ondanks die reusewerk wat al baie jare in beslag geneem het, en die groot vooruitgang op hierdie gebied, moet die vorm waarin die bestanddele (wat by neurohipofise-aktiwiteite betrokke is) in die liggaam voorkom, nog verduidelik word.

1. Gaddum, J. H. (1955): *Polipeptides*. Edinburgh: E. en S. Livingstone, Ltd.
2. Heller, H. (1955): J. Pharm. Pharmacol., **7**, 225.

In spite of the enormous amount of work expended over many years and the great advances made, the form in which the substances concerned in neurophypophysial activities occur in the body still remains to be elucidated.

1. Gaddum, J. H. (1955): *Polypeptides*. Edinburgh: E. and S. Livingstone Ltd.
2. Heller, H. (1955): J. Pharm. Pharmacol., **7**, 225.

DOCTORS' CIGARETTE SMOKING

Doll and Bradford Hill in 1950 found a significantly higher incidence of bronchial carcinoma in English cigarette smokers than in non-smokers, and this has been confirmed in other investigations both in England and America. Much publicity has been given to these findings and some dispute has arisen about their interpretation. It is of interest therefore to find out what effect they have had on smoking habits. It might be expected that the effect would be greatest in members of the medical profession, and this question has recently been investigated by D. A. Pyke at Oxford.

An enquiry was made by questionnaire of all the 217 doctors working in the hospitals in Oxford; 9/10ths of them were men, their ages ranged from 24 to 65, and about 2/3rds were under 40. The numbers are small but the return was very complete, 211 of the doctors (97%) replying to the questions. The enquiry was limited to cigarette smoking, pipe and cigar smoking not being considered. A comparison was made with the general population of the U.K. (figures calculated from the Hulton Readership Survey and the 1% sample of the 1951 census).

It was found that less than half of the doctors smoked cigarettes (47·4% as compared with 72% of the men and 42% of the women of the general population of the U.K.). The 52·6% of doctors who did not smoke cigarettes were made up of 27·5% who had never smoked them and 25·1% who once smoked cigarettes but had ceased to do so.

In the last 8 years 40 doctors (19%) had stopped smoking. In the 4 years immediately before the publication of Doll and Bradford Hill's first paper (September 1950) 18 stopped smoking and in the next 4 years the number was 22. In the same 8 years 11 of the doctors (5%) started to smoke cigarettes. 'In the present group of 211 doctors the number who smoke cigarettes is gradually declining. Eight years ago it was 129, now it is 100'.

Of the reasons given by the 40 doctors for stopping smoking minor ill-health (15) and expense (13) were the commonest. The risk of carcinoma (8) did not rank high amongst the reasons.

The conclusion that may be drawn from the investigation is that though there was a modest but steady decline in cigarette smoking in this group of doctors there was little evidence that the decline was influenced by the question of cancer. However, 56·5% of the group were satisfied with the evidence linking smoking and bronchial carcinoma, 32·5% were not satisfied, and 11·0% were undecided. These opinions varied greatly with smoking habits. Of the cigarette smokers 46% were satisfied, and of the non-smokers 69%. Of the 46 smokers who accepted the evidence 14 hoped to discontinue smoking and 32 did not intend to do so.

The figures concerning cigarette smokers in the whole population of the U.K. showed for each sex during the past 7 years no fall either in the number of smokers or the number of cigarettes smoked. It is evident then that the publicity given to the researches into bronchial cancer has had no appreciable effect on cigarette smoking in the U.K.

Doll, R. and Hill, A. B. (1950): Brit. Med. J., **2**, 739.
Pyke, D. A. (1955): *Ibid.*, **1**, 1115.
Editorial (1955): *Ibid.*, **1**, 1466.

CASE REPORT: 'POSTERIOR MEDIASTINAL' GOITRE

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So-called 'posterior mediastinal goitre', while more frequent than previously supposed, remains a sufficiently uncommon condition to merit publication of a further case.

While these goitres have been referred to in the literature as being posterior mediastinal, this is an anatomical misnomer. They lie in the posterior part of the superior mediastinum. As far as the author is aware, such thyroid masses have never been found in the posterior mediastinum itself, and he is indebted to Professor M. R. Drennan and Dr. E. N. Keen for drawing his attention to this fact.

Mora *et al.*[1] cite Henschen (1940) as describing one case out of a series of 6,000 consecutive thyroidectomies,

and in their own paper recorded the 7th case to be reported at that time (1944). Wilson[2] in reporting 2 cases of his own in 1951 could find reference in the literature to only 12 other cases, but added that since the preparation of his paper Tomkinson (1951) had described 3 further cases, and he mentioned that Linell and Piercy had come across several others.

Mrs. H.S., a German woman in her early thirties and the mother of 3 children, had arrived in South Africa 4 years previously. At that time she suffered from a cervical goitre which was shortly afterwards removed by a practitioner. No pathological section was obtained at the time, but I was recently informed by the doctor concerned that it was a toxic nodular goitre, and that he performed a 'total' thyroidectomy.

Apart from gynaecological troubles which led to hysterectomy she remained well for 4 years, and then complained to her doctor that she had a feeling of compression in her chest and that 'she felt as if she had grown another goitre'.

Physical Examination

(*a*) *Clinical* examination was essentially negative. No signs of either thyrotoxicosis or myxoedema could be found, and no cervical thyroid tissue could be felt. There was no clinical evidence of mediastinal compression.

(*b*) Blood examination revealed nothing abnormal.

(*c*) Bronchoscopy did not reveal any pathological condition.

(*d*) A chest X-ray showed no active pulmonary disease, but there was a rounded soft-tissue mass present in the upper right side of the chest. She was thereupon referred for further investigation to Dr. Eric Samuels, radiologist, who reported as follows: (i) A rounded soft-tissue mass can be seen arising from the right superior mediastinum (Fig. 1). (ii) In the lateral films and on screening, the tumour is seen to lie posteriorly in the mediastinum, and the barium swallow (Figs. 2a and 2b) shows that it displaces the oesophagus forwards. (iii) Fig. 3, taken in the course of a lipiodol

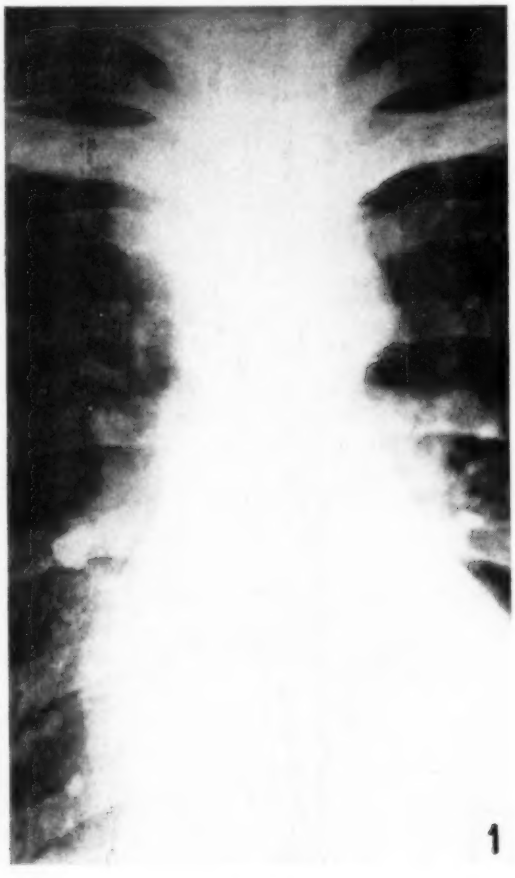

Fig. 1.

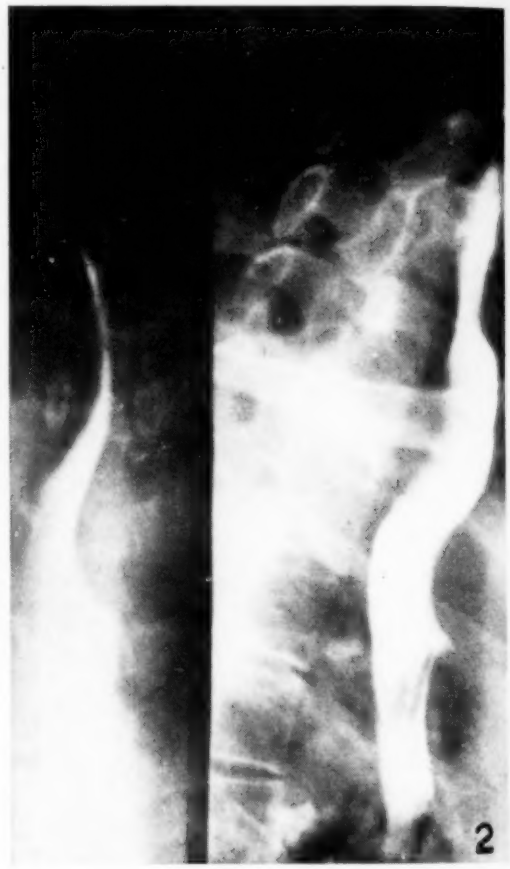

Fig. 2 (*a*) and (*b*). Oblique views showing displacement of the oesophagus. The goitre itself is not apparent on these films.

examination of the bronchial tree, during which the dye entered the gullet, shows the tumour mass clearly as well as some displacement of the gullet itself.

Dr. Samuels made a pre-operative radiological diagnosis of mediastinal goitre.

Operation

Since a cervical thyroidectomy had been performed previously and the tumour was entirely intrathoracic, transpleural approach was decided upon. Through a long thoracotomy incision the pleural cavity was entered *via* the bed of the 5th rib, which was resected. This gave adequate exposure of the tumour, which proved to be the size of a tennis ball. It lay posteriorly in the mediastinum, emerging from beneath the superior vena cava, and displacing the trachea slightly forwards and the oesophagus to the left. Inferiorly it was bordered by the azygos vein and to the right by the highest intercostal vein. The vagus nerve was stretched

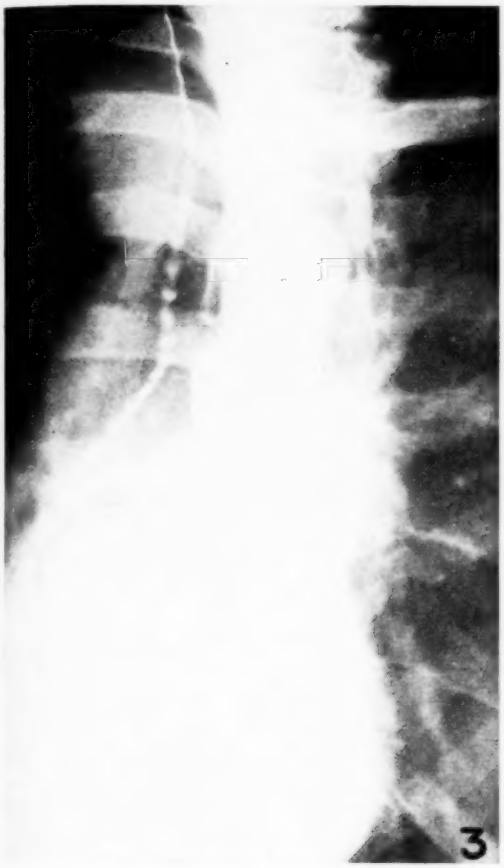

Fig. 3.

over the swelling to the right and the phrenic nerve was medial and anterior to it. The parietal pleura formed a false capsule, and most of the tumour could be readily shelled out from its bed except at its upper pole, which was adherent in the region of the superior vena cava. Here a vascular pedicle passed beneath the great vessels in an upward direction. It could not be followed with safety and was therefore transfixed and the tumour removed.

The chest was closed with intercostal drainage for 48 hours. Apart from some intercostal pain the patient convalesced rapidly and was discharged on the 8th post-operative day.

Pathological Report: 'Sections of this specimen from the mediastinum show the presence of thyroid tissue with acini containing colloid and lined by low flattened cuboidal epithelium. In some areas there is papillary change. The histological features are suggestive of either a benign metastasizing struma or metastatic low-grade papillary carcinoma' (South African Institute for Medical Research).

DISCUSSION

(*a*) *Incidence:* As mentioned, posterior mediastinal goitre has been regarded as uncommon (by 1951 less than 20 authenticated cases had appeared in the literature) and individual cases merit recording; but the condition is probably commoner than has been supposed.

(*b*) *Etiology and Anatomy:* To merit the designation intrathoracic the tumour should be situated below the thoracic inlet[3] and to be posterior it must lie posterior to the recurrent laryngeal nerve, the carotid sheath, the subclavian and innominate arteries and the innominate vein, and on the right side of the superior vena cava.

These goitres are probably not 'aberrent' or 'ectopic' in origin. Wilson[2] cites Wakeley and Mulvaney (1940) as stating that aberrent goitres are a feasible proposition, since in the early stage of development the thyroidal bud lies first in front of the second arch, and later in contact with the aortic stem in the loose subpharyngeal tissue. However, he confirms that a search of the literature does not reveal a single mediastinal thyroid which could be so explained. This would tend to support the view of Sweet,[3] namely, that the goitre results from a descent of cervical thyroid tissue, although ultimately a direct continuity may be shown only by a vascular pedicle, which may be very attenuated, or by a thin strip of posteriorly-placed intervening thyroid tissue.

In the more uncommon posteriorly placed mediastinal goitre Sweet feels that the explanation lies in the fact that the thyroid mass originates from the postero-lateral surface of the lateral thyroid lobe at a high level whereas, in cases where thyroid tissue is present in the anterior mediastinum, the point of origin is from the inferior pole of the lateral thyroid lobe. In 3 of his described cases there is strong evidence to support his thesis.

(*c*) *Pathology:* In the majority of recorded cases the histology is that of adenomatous, colloid or 'atrophic' goitre, and although such thyroid masses in the mediastinum may be toxic, the typical diffuse toxic goitre has not —according to Lahey and Criles—been encountered in this situation.

In the case described above, however, the pathologist suggested that the mediastinal thyroid may have been a 'secondary' deposit. At the same time neither the histology nor the papillary change described are in themselves diagnostic of either a metastasizing struma or a true malignancy. Although 'secondaries' from a metastasizing goitre have been described in both soft tissue and bone,[4] the presence of the goitre under discussion is not necessarily explained on this basis. The presence of a well-marked pedicle from its upper pole might indicate a cervical origin of misplaced thyroid tissue. In this case, too, it is possible that the mediastinal thyroid increased in size subsequent to the cervical thyroidectomy.

(*d*) *Symptomatology and Diagnosis.* In the cases described or reviewed by Sweet,[3] Wilson[2] and Mora *et al.*[1] a cervical goitre was usually absent, although a nodule could be felt in some instances. The symptoms were usually mild and due to pressure, toxic change, or a combination of both these factors; or attention was first directed towards the mediastinal mass when the patient underwent routine X-ray examination.

Radiological investigation is essential for diagnosis, and confirmation by histological examination of removed tissue is necessary to place the pathology beyond doubt in this unusual situation.

(*e*) *Treatment:* Although severe symptoms are often absent and the goitre detected quite accidentally, Wilson[2] considers that it should be removed from this situation, where any sudden increase in size due to haemorrhage into or degeneration of the goitre might result in dangerous pressure. He also draws attention to the fact that although toxic manifestations may be absent or slight, this factor should be assessed and if necessary treated before surgery is undertaken.

CONCLUSION

A case is presented of so-called posterior mediastinal goitre.

In this case the question of further therapy arose in view of the pathologist's report and the history of a previous thyroidectomy. Although a total thyroidectomy had been performed, a complete eradication of all cervical thyroid tissue for adenomatous goitre is not usually carried out. It was suggested by the pathologist that the patient be further treated by radio-active iodine or deep X-ray therapy.

I am indebted to Dr. J. Craig Cochrane and Dr. Dan du Plessis for permission to publish this case and to Dr. R. Jenkins for the photographic reproductions.

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CEREBRAL PALSY IN SOUTH AFRICA: A PROGRAMME

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Cerebral palsy may be defined as a condition characterized by paralysis, weakness, incoordination, or other aberration of motor function due to lesions in the motor areas of the brain.[1,2]

In this paper the writer wishes to outline a programme for the treatment, training, and education of children suffering from cerebral palsy in South Africa. For the present only European children are considered.

When planning a programme for the habilitation * of cerebral palsied European children in South Africa one would be wise to recognize two aspects of the problem: (1) the need for a thoroughly equipped and well staffed Diagnostic and Treatment Centre for Cerebral Palsy, and (2) the problem of vast distances and a sparse population. At the moment of writing there are 2 private schools for children with cerebral palsy which have been in existence for some years, one in Johannesburg and the other in Pretoria. Recently one was started in Cape Town. Two large residential Union Special Schools at Kimberley for physically handicapped children also take cerebral-palsy (C.P.) children. However, a well-staffed C.P. Clinic is expensive to maintain and the trained staff difficult to procure. For these and reasons still to be dealt with the writer proposes a *Central C.P. Diagnostic and Treatment Centre*, fully equipped and adequately staffed.

Locality

A programme of physical habilitation will only be as good as the physical medicine practised—a statement often made by Dr. Howard A. Rusk, Director of the Institute of Physical Medicine and Rehabilitation in New York City. If the physical-habilitation programme is to succeed then a doctor who has specialized in physical rehabilitation should supervise it. For cerebral palsy it is essential that the medical director should have had adequate specialization in C.P. habilitation. This also applies to the therapists practising physiotherapy, occupational therapy, and speech therapy.

This means that the centre should be situated in an area where the services of such a specialist are procurable. The medical director need not devote all his time to the centre. He could be employed on a part-time basis, allowing him time to practise privately, or to teach at a university. He would have certain fixed visiting hours at the centre. This arrangement works very well at well-known overseas centres.

A further consideration in determining the locality of the centre is the availability of the various medical specialists to form a panel of consultants. These are attached to the medical schools of universities, and as a *quid pro quo* for their honorary services the centre would be able to offer clinical teaching facilities to the medical school. By this arrangement both the centre and the medical school would benefit.

The teaching function of the centre should not be underrated. The clinical teaching material available here would be of the greatest value in the training of medical students, physiotherapists, occupational therapists, and speech therapists.

The centre would therefore have to be situated in the Pretoria-Johannesburg area, or in the Cape Peninsula, where the medical schools are located.

Residential, Day School, and Out-patient Services

There should be a residential programme as the core

* In the context of this paper *habilitation* is used in the sense that a child with a congenital defect such as cerebral palsy is taught the correct patterns of motor movement *which it has never before mastered.*

around which a day-school and out-patient services could be provided.

It will be the function of the *Central C.P. Diagnostic and Treatment Centre* to provide (1) a thorough diagnostic examination (such as will not be readily available at other C.P. clinics), and (2) the most up-to-date and intensive treatment possible.

It is to be expected that parents will bring their children for evaluation and treatment from all over South Africa, South West Africa, the Rhodesias, and Nyasaland, since this centre will be the best of its kind in this part of the African Continent.

In some cases diagnosis can be arrived at in a few days, perhaps even one day. In other cases a longer period of observation will be necessary for diagnosis. Residential facilities will be required for C.P. children and their parents who come from country districts for examination or treatment. Urban children living within travelling distance of the centre could attend as out-patients or day scholars, though some of them will, for a variety of reasons, such as home conditions, the need for intensive treatment etc., also have to be taken as residential pupils. C.P. children attending as day scholars or out-patients cannot travel alone or use public transport, and therefore some form of special bus service should be made available for them.

An additional function of the out-patient clinic of the centre will be to train parents of C.P. children. Generally a child should remain in its parental home until at least 3 years old. There is no reason why some parents (especially the mothers) could not be given the training to work with their own C.P. children until they are old enough to become residential pupils for a period of intensive treatment. In view of the very limited facilities in South Africa for the treatment of cerebral palsy, this is one way of coping with this problem.

The centre should therefore comprise accommodation so that a mother may stay there with her C.P. child for 2 weeks or so. There she would be taught the exercises for the child before taking him home. At regular intervals mother and child would return for evaluation of progress and further instruction. The intervals would vary according to the prescription of the medical director, but on an average they might be about 3 months. By this type of out-patient service the eventual treatment time on a full residential basis will be reduced, and at the same time the development of contractures and incorrect muscular habit-patterns will be prevented or kept to a minimum.

During their stay at the centre the parents should also have consultations with the psychologist, who would help them to face the emotional implications of their child's condition, and prepare them for the eventual necessity of placing their children in the centre for long-term treatment, or of sending them to some other school for handicapped children. The psychologist will have an important function to fulfil in interpreting the medical findings to parents, and in helping them to accept these findings, especially when the prognosis is unfavourable.

Some parents (probably the majority) will be unable to afford the train-fare for visits to the centre. In such cases free rail-warrants for the parent and the child should be issued on the recommendation of the medical director or the Principal of the centre.

Age Range

Such authorities as Phelps, Deaver, and Perlstein in the United States agree that treatment should be initiated as soon as the condition of cerebral palsy is diagnosed. If a child develops an incorrect pattern of motor movement—either of arms or legs, or in the musculature of the mouth or throat—this incorrect pattern cannot be easily unlearned, and very often cannot be broken at all. It is one of the aims of treatment of the cerebral palsied to attain the appearance of being normal in gait, posture, and speech. *It is therefore of the utmost importance to teach the child the correct patterns of muscle movement before the child has learned the wrong patterns.* It is thus clear that the earlier in life the condition is diagnosed and treatment started, the better are the chances of success. This is an important reason why it should be made possible for parents—irrespective of where they live in the Union or South West Africa—to reach the centre with their C.P. children.

The Centre should have out-patient facilities for children even younger than 12 months; but many difficulties may arise with the nursing care of children below the age of 3 years if taken as residents, and it therefore seems wise to limit the lower age-limit for residents to 3 years, as is done at several overseas centres visited by the writer.

The centre should provide a residential programme for the pre-school child of 3-6 years, and the school-going child of 6-12 years.

The upper age-limit for admission to the residential programme should be set at about 12 years of age; that is, at the onset of puberty. It seems to be the experience overseas that very limited success, if any at all, is to be expected from the treatment of the older C.P. case, since muscular habit-patterns have been set, and muscles have atrophied and hypertrophied.

The centre should have a close liaison with existing schools for the physically handicapped, because as soon as a child is able to join one of these schools he should be transferred there.

Criteria for Admission

Since cerebral palsy is a disability which can only be treated by a highly trained staff, the cost of maintaining the centre will be high. Moreover, the nature of the work itself is much more of an emotional drain on the therapists than work in other fields of rehabilitation. Consequently comparatively few therapists are willing to devote all their time to cerebral palsy. It has been the experience of overseas workers that with C.P. children of low mentality very little progress is made because of their lack of cooperation and drive. The therapists become despondent, and look elsewhere for emotionally more rewarding fields of work.

It is necessary to be realistic when deciding what types of children should be admitted for training and

education. It is the writer's impression, based upon 13 months of intensive travel-survey of C.P. treatment centres and clinics in the United States, England and Scotland, that one should be careful to accept only those cases which are treatable and educable. *To start*, at any rate, only those children with average intelligence or higher should be admitted for treatment and education. Naturally the diagnostic service of the centre will see many children of intelligence below average with cerebral palsy, but if this safeguard is not applied the treatment centre will be in danger of being flooded with C.P. children who are mentally so backward as to be very poor treatment material.

Recent research in England and America has established that between 45% and 50% of all C.P. children who are seen at clinics and schools fall into the mentally-deficient range of I.Q.'s, i.e. below I.Q. 70. Up to 74% of the total group can be classified as subnormal or mentally deficient. The percentage of average or superior I.Q.'s has been found to be 26% of the total cerebral-palsy group.[3, 4]

The habilitation programme is so rigorous, it demands so much from the C.P. child in terms of emotional stability, drive, perseverance, and mental capacity, that the treatment of the mentally and emotionally inferior C.P. child is a waste of time, money and the skilled knowledge of the therapists and teachers. Moreover, these children, by occupying a bed in the residential centre or taking up the time of the therapists, prevent C.P. children with a favourable prognosis and the necessary mental and emotional resources from getting treatment. A leading C.P. centre in the United Kingdom refuses even to examine a C.P. child if it is known to be of inferior mentality. So, too, a State school for C.P. children in Texas, U.S.A., which has great success with its pupils, refuses to take the child with mentality below average.

The criteria for the admission of a cerebral palsied child to the treatment programme should therefore be:

(1) *Medical:* favourable medical prognosis as to the probable outcome of treatment;

(2) *Psychological:* a favourable answer to the question whether the child's mental ability will allow him to profit from the training programme and cooperate with the therapists and teachers;

(3) *Age:* (i) out-patients—no age limit; (ii) residential —3-12 years.

It is wise to leave the decision whether a C.P. child should be admitted for training in the hands of the medical director and the principal of the centre, since this requires skilled knowledge. The governing body of the centre should not interfere with decisions of this nature.

Incidence of Congenital Cerebral Palsy

The writer is not aware of published information about the incidence of infantile congenital cerebral palsy in South Africa. However, Winthrop Phelps has published figures for the U.S.A. which indicate that there are 7 cases of cerebral palsy per 100,000 of population. This may be used as a basis for computing the number born into the South African population each year.

In 100,000 population 7 are born each year. One dies at birth or in infancy. Two are feebleminded, and one is so severely handicapped as to defy treatment. These latter 3 need custodial care. One out of 7 has such a slight degree of impairment that he does not need treatment or needs it only for a short time. This leaves two treatable C.P. children out of the total of 7 born each year for every 100,000 of population.

These statistics applied to the South African European population of approximately 2½ million, give the following figures for cerebral palsy:

Born each year		175
Die in infancy	25	
Feebleminded	50	
Too great handicap	25	
Too slight handicap	25	125
Treatable cases born each year ..		50

Therefore, to start with, *in each one-year age group* there would be 150 C.P. children who would need diagnostic services. Of this group approximately 75 would be diagnosed as untreatable, either on account of feeblemindedness, or on account of a too severe handicap. For this group *custodial care* will eventually be needed. A further 25 will either not need treatment, or would need treatment only for a short time because of the mildness of the impairment. A group of 25 remains needing extended treatment, training and education.

One may deduce from these figures that at any given date there are approximately 300 pre-school children in the age-group below 5 years 11 months who have cerebral palsy, are educable, and can benefit from treatment. Furthermore, approximately 100 C.P. babies are born each year who will need diagnostic services in the out-patient department of such a centre, but will prove to be untreatable or not needing treatment.

Number of Pupils in the Residential Centre

The problems which C.P. children present are so complicated, and of such an individual nature, that the number to be admitted to the residential centre should be limited. The smaller the unit, the better will the individual attention be. And when such a new venture is attempted conditions should be such that success is assured. It would be the writer's suggestion that initially the number of children in residence should be limited to 30 or 32 until the success of the centre has been proved, after which the maximum number of residential pupils could be reconsidered.

The diagnostic services and the out-patient department would naturally see as many children as are brought for diagnosis, and can be treated.

Size of Staff

This is the almost prohibitive aspect of the programme. Many of the patients are very severely handicapped, and will be helpless when admitted. They will require a great deal of nursing care, day and night, in the wards or dormitories, and in the therapy rooms and classrooms. Trained therapists and special education teachers

will be needed. In such centres the ratio of staff to pupils is very high.

The School for Cerebral Palsied Children, Redwood City, California, is a State residential school for the intensive treatment and education of C.P. children. Its aim and function is similar to that of the centre here proposed. The school has 32 children, and the following are the staff: 1 Superintendent (an exceptionally well qualified educator), 2 vice-principals (resident-female), 4 special education teachers, 2 speech therapists, 3 physiotherapists, 3 occupational therapists, 4 registered nursing sisters, 23 hospital attendants, 1 seamstress, 1 yardman-factotum-chauffeur, 2 janitors, and 1 carpenter, besides kitchen staff and clerical staff. (The medical director, psychologist, and other medical specialists are supplied by a near-by university hospital, which also provides other medical services.)

Apart from the kitchen and clerical staff this is a staff of 46 for 32 children. At the Moody State School for Cerebral Palsy Children, Galveston, Texas, the same ratio of staff to pupils exists. The Moody School also has a bracemaker with his own workshop attached to the school, an arrangement which is found to be absolutely essential.

The high number of nursing attendants is due to the fact that these C.P. children need nursing care around the clock. Two vice-principals would be unnecessary if there was a head physiotherapist and psychologist, and more teachers, which are needed if classes go up to standard VI, and there are additional day scholars. One full-time principal is sufficient to administrate the centre, provided a part-time medical director assumes the responsibility for the medical side. He should be a specialist in the field of infantile cerebral palsy, and would be responsible for the routine medical examination of the children and their medical care; he would prescribe and supervise treatment, and would serve as a liaison between the centre and the panel of consultants.

Medical Services and Prosthetic Appliances

Cerebral palsy—the result of lesions in the central nervous system—presents problems which can only be properly evaluated by a team of specialists. To buy the services of these specialists would be so expensive as to be prohibitive. A solution to this conundrum would be to obtain their help in an honorary capacity. It has been suggested above that a near-by medical school might be interested in the centre. It is advisable to appoint a panel of honorary medical specialists in the fields of neurology, physical medicine, orthopaedics, otolaryngology, psychiatry, paediatrics and dentistry. Free hospitalization should also be procured for children needing hospitalization for surgery, or other medical treatment. Dental care would have to be given, and since the C.P. child presents emotional problems which make dental treatment difficult the dentist would have to be carefully selected—for his professional skill as well as characteristics of personality.

Prosthetic appliances and orthopaedic boots and shoes are very expensive. In the U.S.A. the view has been expressed that all parents of C.P. children are medically indigent. These children cost their parents so much for the provision of their everyday needs that the parents rarely can afford the constant drain on their resources caused by medical treatment and prosthetic and orthopaedic appliances. For that reason the centre will have to provide free prostheses and orthopaedic footwear, besides medical and dental treatment. An arrangement should be made with the Government Artificial Limb Factory in Johannesburg for the provision of these appliances. However, a bracemaker and his workshop should be attached to the centre so that most of the braces, minor alterations, and repairs could be effected at the centre, and promptly; experience has proved this to be essential.

Education

A nursery-school programme should be provided for the pre-school child, and classroom facilities will be required for the child of school-going age. Experience shows that with this type of child the quota should not exceed 8 children to a teacher, since the teaching is highly individualized.

The syndrome of brain injury as described by Strauss and Lehtinen[5] should be expected in some C.P. children. The teacher will have to cope with children showing distractibility, hyperactivity, and motor disinhibition. Specially built and equipped classrooms are needed to cope with these brain-injured children.

Dormitory Facilities and Nursing Care

Owing to the severity of the disablement of many of these children, and their extreme youth, much more nursing and supervisory care is required than with other types of handicapped children. Accordingly day and night nursing care will be needed. Whereas the bathing, dressing, feeding and general supervision of these children can be undertaken by nursing assistants, a trained nursing sister must always be in charge, day and night. One never knows when a C.P. child may fall and hurt itself; so often what to a normal child is an ordinary tumble produces a major injury to the C.P. child. For that reason alone the presence of a trained nursing sister is required, who will be able to assess the severity of the injury and either give treatment immediately or call in a doctor. This cannot be left to a nursing attendant or an unqualified person.

These children greatly need love and affection. There is a direct relationship between a warm, loving, accepting atmosphere and the rate of progress of rehabilitation.

It seems inadvisable to have more than 8 beds to a dormitory. In a centre for 30 or 32 children (residential) this would entail 4 dormitories of 8 beds each, which would allow for some differentiation according to age and personality peculiarities. A dormitory of 8 beds can be made cosy and homely and can provide the feeling of security and closeness so important for the emotional well-being of young children.

The Building

The centre should be housed in a specially planned and constructed building, on one floor, with no steps, and providing dormitories, sick bay, quarantine room,

separate treatment rooms for physiotherapy, occupational therapy and speech therapy, school classrooms, a room for psychological testing and play therapy, general play-room, dining-room, kitchen, pantry, staff duty-room and rest-room, administrative offices (principal, medical director, clerk, typist, waiting-room for parents), store-rooms, brace shop, waiting-room for out-patients, board-room, etc. Living quarters will be required for the principal and his family, the nurses, nursing attendants or assistant matrons, kitchen and dining-room staff as well as for one or two teachers. A flat with two or three bedrooms, a sitting room and bathroom and a kitchenette should be held available for parents who have brought children for examination and are to receive instruction in the home training of the children.

Children not Provided for by the Proposed Centre

The proposed centre does not provide for the adolescent C.P. in need of vocational training. This is offered at the schools at Kimberley, but there will remain a need for an after-care home for cerebral palsied persons in the older age-ranges. The after-care home should offer sheltered workshop employment and farming activities for the cerebral palsied who are unemployable in the open labour market. This is a pressing problem needing study and planning.[6]

Another group of C.P. children for whom the centre would make no provision are those whose disabilities are so severe as to defy medical treatment, or who are so mentally or expressively handicapped as to be unable to cooperate in the treatment programme. These cases are in urgent need of custodial care, and provision will have to be made for them.

CONCLUSION AND SUMMARY

In conclusion it should be stated that the establishment of a *Central Diagnostic and Treatment Centre for Cerebral Palsy* would not replace or do away with C.P. clinics in other localities. These clinics and schools should be encouraged and aided. The centre here proposed would be a 'court of last appeal' providing thorough examination, diagnosis, and treatment unavailable at other clinics or schools for the cerebral palsied. To summarize the proposed centre will provide the following services:

1. A thorough diagnostic service for children with cerebral palsy.

2. An intensive treatment, training and educational programme for selected C.P. children who are able to cooperate in and benefit by the programme.

3. A training and counselling service for parents of C.P. children.

4. A research and training centre for the medical profession and ancillary medical personnel.

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MONGOLISM IN THE BANTU

REPORT OF A CASE

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Ever since Langdon Down[1] attempted an ethnic classification of idiots in 1866, when mongolism was described for the first time, an enormous amount of literature has been published on this type of mental deficiency. Formerly the consensus of opinion was that mongolism occurred only in the white (Caucasian) race.[2] This opinion was shown to be wrong when Bullard,[3] in 1909, reported his first observed case of mongolism in a Negro. Since then instances of mongolism have been reported to occur in Indian, Chinese and Japanese populations.[4] Cases have also been reported in Egyptians, Indonesians and Jamaicans.[5] Tredgold[6] recently stated: 'It now seems clear that the condition occurs among all races and in practically every part of the world'. Nevertheless the incidence seems to be particularly high among Europeans, occurring in about 1 birth per 600.[7, 4]

In South Africa mongolism seems to be extremely rare amongst the pure-blooded Bantu tribes; an intensive search through the medical literature to find a recorded case was negative. Kluge,[8] of the Alexandra Institution, Maitland, who has been devoting attention to this subject and has been in contact with authorities throughout the world regarding the incidence of mongolism in their respective countries, after searching intensively for 2 years among pure-blooded Bantu, found 2 cases—one amongst the Xosa, and the other amongst the Fingo. Walt,[9] of Durban, saw 2 other cases among the Bantu, apparently of pure Zulu origin. It seems therefore that these 4, together with one

to be described, are the only known cases of mongolism in the Bantu.

CASE REPORT

R.M., a 12-year-old Basuto male child, was admitted to the Oranje Hospital, Bloemfontein, on 29 October 1942 from the Trompsburg district. His place of birth was reported as Mafeteng, Basutoland. No family history could be obtained, and all efforts to trace any of the relatives were unsuccessful. He was certified because of his behaviour, and was reported to be noisy, aggressive and destructive at times. He tried to injure animals by throwing stones at them. He could not give any account of himself or even the name of his master.

On admission he was unable to give any information about himself except his name. He could not distinguish between left and right, and was unable to wash or dress himself. It was difficult to understand him, as he was practically inarticulate. He was diagnosed as being a low-grade mongolian imbecile. As the years passed his mental condition showed no appreciable change.

Present State. He is amiable and placid and gives no trouble in the ward. He remains mostly asocial, solitary and withdrawn. He does a little work—helps polishing floors. He speaks in a low husky voice, and is unable to give any account of himself. He knows his name and counts up to four. His habits are correct, but he has to be assisted in undressing and washing. He shows a remarkable faculty of mimicry (Fig. 3) and has a sense of rhythm. He is also fond of music, and a sense of humour has been noticed at times.

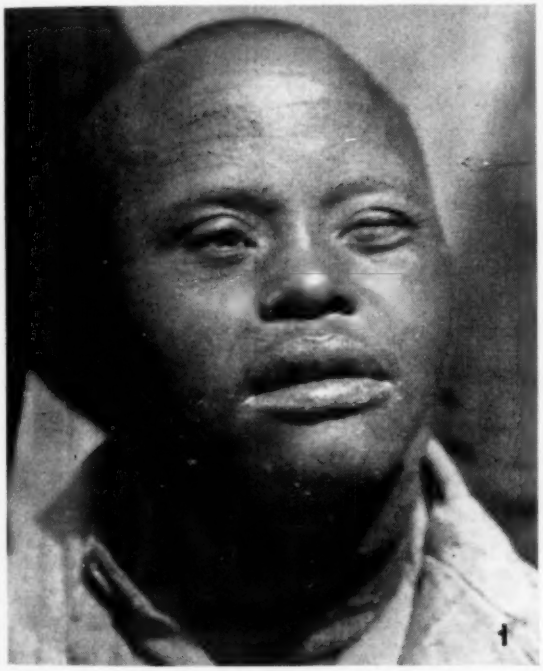

Fig. 1. Showing the mongoloid eyes with the narrow palpebral fissures slanting downwards medially.

General Structure: Small and stunted growth, (height 4 feet 7¾ inches), with a slight dorsolumbar kyphosis (Fig. 2).

Muscle Tone: General hypotonia of the muscles.

Head and Neck: He has the typical microbrachycephalic skull, with flattening of the occipital area.

Eyes: There is some narrowing of the palpebral fissures, which slant downwards medially (Fig. 1), and a convergent strabismus.

Fig. 2. Showing the small stunted growth (height 4 feet 7¾ inches) and typical way in which a mongol holds a spoon. Height of person next to mongol is 5 feet 9 inches.

Fig. 3. Showing grimacing by mongol, mimicking another person standing next to photographer.

Mouth: The hard palate is high and narrow. Teeth irregular and carious.

Ears: The external ears are very small, and the external auditory meatus narrow on both sides.

Hands: Short and plump. The thumb and little finger are very much shorter than the other fingers and the little finger is slightly incurved (Fig. 5). He has a transverse fold across the whole palm, the so-called 'simian' or 4-finger line (Fig. 4). When using a spoon for eating he fixes the handle between the 2nd and 3rd finger while the bowl of the spoon is held with the tips of the 1st and 2nd fingers and of the thumb, which, according to Doyle,[10] is the typical way in which a mongol holds a spoon (Figs. 2 and 3). There is extraordinary laxity of the metacarpo-phalangeal joints due to muscular hypotonia.

Feet: Short and broad. A relatively large cleft is present between the big and 2nd toes.

Blood Picture: Haemoglobin 15·9 g.%. Colour index 0·98. Erythrocytes 5,400,000 per c.mm. Leucocytes 12,400 per c.mm. Differential count (the normal figures are shown in brackets for comparisons): basophils 0% (0%), eosinophils 0·78% (3%), myelocytes 0% (0%), juvenile cells 0% (0%), stab cells 14·59% (4%), segmented cells 23·99% (63%), lymphocytes 57·68% (23%), monocytes 2·93% (6%).

The Nuclear Shift Index (N.S.I.—Schilling index)=

$$\frac{\textit{Myelocytes}+\textit{Juvenile cells}+\textit{Stab cells}}{\textit{Segmented cells}}$$

In this case the N.S.I. is 1 : 1·6; normally the N.S.I. in South Africa is between 1 : 10 and 1 : 8. In this case therefore the N.S.I. shows an immature or foetal blood picture—the blood picture of an 'unfinished' child. This blood picture supports the theory of Benda[11] regarding the etiology of mongolism, viz. that mongolism is the result of a deceleration of the developmental rate due to noxious agents which interfere with the proper nutrition of the growing foetus. Another characteristic

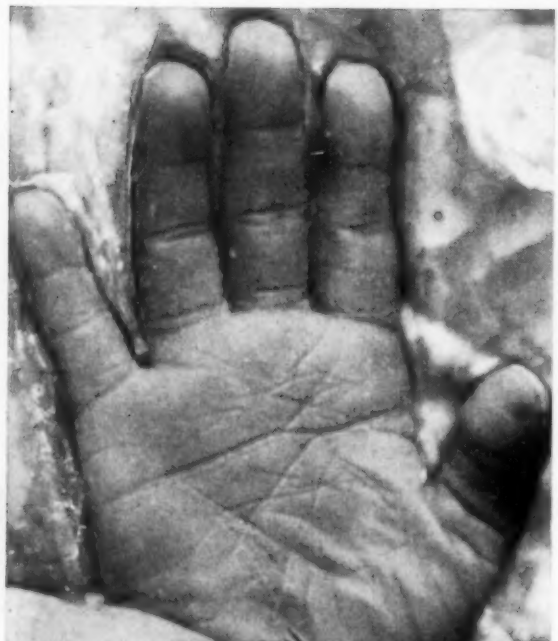

Fig. 4. Hand of mongol showing 'simian' or 4-finger line quite distinctly.

is the marked lymphocytosis, which is a fairly constant finding in mongolism.

The blood Wassermann test was negative.

SUMMARY

1. The first report of a Bantu case of mongolism is presented.

2. Most of the characteristic physical features of mongolism are present, e.g. the microbrachycephalic skull, the short broad hand and the 4-finger line, the mongoloid eyes, the cleft between the big and 2nd toes, and the general hypotonia of the muscles.

3. The characteristic mental features are present, viz. the low-grade imbecility, faculty of mimicry, and sense of rhythm.

4. The blood picture shows a general immature or foetal state. A marked lymphocytosis is also present.

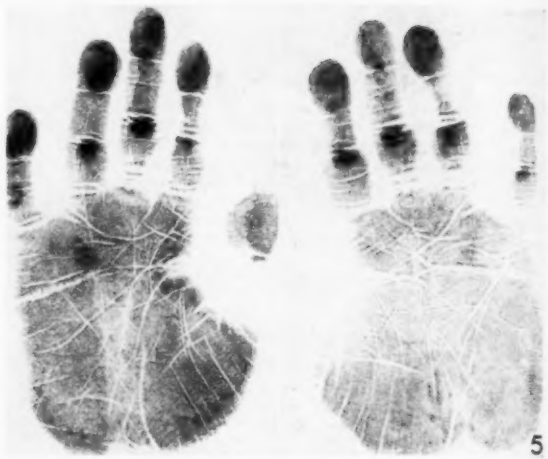

Fig. 5. Handprints of mongol showing well defined 4-finger line and incurving of left little finger.

5. Photographs are reproduced which show most of the physical features of mongolism. Handprints showing incurving of the little finger and the 4-finger line are reproduced.

I wish to thank Dr. I. R. Vermooten, Commissioner for Mental Hygiene, for permission to publish this article. I am very grateful to Dr. M. Ginsburg, Physician Superintendent of the Oranje Hospital, for his kind advice, help and encouragement in preparing the material. I should also like to thank Dr. W. Kluge, of the Alexandra Institution, for the keen interest he has taken in the case and the information he has supplied, as well as the differential blood count done by him. My thanks to Dr. A. Neser of the South African Institute for Medical Research, Bloemfontein, for the other blood investigations done, and to Mr. R. Ludwig for the photographs and handprints.

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UNION DEPARTMENT OF HEALTH BULLETIN

Report for the 6 days ended 6 July 1955:

Plague, Smallpox: Nil.

Typhus Fever. Cape Province: No further cases have been reported from Cradock district since the notification of 16 May 1955. This area is now regarded as free from infection.

Epidemic Diseases in Other Countries:

Plague: Nil.

Cholera in Rangoon (Burma); Calcutta (India); Chalna (Pakistan).

Smallpox in Moulmein, Rangoon (Burma); Phnom-Penh (Cambodia); Ahmedabad, Allahabad, Bombay, Calcutta, Delhi Kanpur, Kozhikode, Lucknow, Madras, Visakhapatnam (India); Dacca, Karachi, Lahore (Pakistan); Hué, Nhatrang (Viêt-Nam).

Typhus Fever in Alexandria (Egypt).

ANTE-MORTEM THROMBOSIS IN LEG VEINS

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Ante-mortem thrombosis in the deep leg veins is recognized as a comparatively common occurrence in adults, although it is rare in children. Frykholm[1] noted 48% with such thromboses in deep leg veins and calf muscles from an unselected group of autopsies; Hunter[2] reported an incidence of nearly 53%; and Barker,[3] studying post-operative cases of venous thromboses, noted that 86% occurred in the lower limbs.

The present investigation was undertaken to evaluate the frequency and importance of this condition, and to consider the pathogenesis of such thromboses.

Method

The investigation comprised 115 unselected autopsies of European adults. In each case a full ante-mortem history was obtained. For purposes of comparison all cases were divided into 2 groups—according to whether they were strictly confined to bed for not more than 12 days, or whether they were strictly confined to bed for a longer period of time. 'Strict bed rest' meant that patients were kept in bed for all purposes, including washing and toilet; it was assumed that the lower limbs would be in a state of relative immobilization during this period of enforced rest. All the cases investigated were suffering from some severe disease, since all the patients died after being confined to bed on strict bed rest for longer or shorter periods as the case might be.

A routine complete post-mortem examination was carried out on every patient, but in addition the deep muscles and veins of the calves of both legs were thoroughly examined for ante-mortem thrombi. Although it was appreciated that other sites (particularly the plantar veins) could produce ante-mortem thrombi, this investigation was limited specifically to these calf veins. The portions examined lay between the popliteal fossa and the tendo Achillis in both limbs.

Material from all macroscopically positive cases and from all doubtful cases was examined histologically. Specimens were taken from suitable sites as distally as possible; they were fixed in formalin, and several sections were stained by haematoxylin-eosin and by Van Gieson.

Results and Discussion

Ante-mortem thrombi were found in 59 cases (51%). This is in close agreement with the results obtained by previous workers. The true percentage for all ante-mortem thromboses is certainly higher than these figures suggest, since other sources of venous thrombosis were not examined. But in contradistinction to the conclusions of McLachin *et al.*[4], the veins of the thigh and pelvis were only rarely involved and then always secondarily to the thromboses in the legs.

Unilateral thrombosis occurred in 16 cases, 15 in the right leg. No reason could be found for this marked preference. No relationship was discovered in this series of cases between ante-mortem thrombosis and sex, occupation, varicose veins or blood dyscrasias.

The relationship to complete bed rest is shewn in Tables I and II.

TABLE I

Days of strict bed rest	*No. of cases with ante-mortem thrombosis*	*Days of strict bed rest*	*No. of cases with ante-mortem thrombosis*
1– 3 ..	3	13–15 ..	4
4– 6 ..	14	16–18 ..	1
7– 9 ..	8	19–21 ..	3
10–12 ..	14	22–24 ..	4
	—	Over 24 ..	8
Total 12 days or less	39	Total over 12 days	20

Although the initial figures in this series shewn in Table I are probably inaccurate by a few days' interval (it was not possible to exclude almost complete bed rest before admission to hospital where supervision was more satisfactory), they will all nevertheless fall well inside the arbitrary limit of the 12 days' interval, and may be accepted as satisfactory from that point of view.

TABLE II

	Cases with thromboses	*Cases without thromboses*
Bed rest up to 12 days	.. 39 (46%)	46 (54%)
Bed rest over 12 days	.. 20 (67%)	10 (33%)

$x^2 = 4 \cdot 48$. n=1. p less than 0·05, not considered to be significant.

It is interesting that in this series of cases the number showing ante-mortem thromboses increased with the duration of bed rest—a result that might have been expected, especially in view of the emphasis laid on this aspect of the problem by Hunter and colleagues. However, the correlation shown in Table II is not in fact statistically significant.

The age of individual cases was unimportant; nor could a significant correlation be found between the length of time spent at bed rest and the nature of the terminal illness (Table III).

TABLE III

	Cardio-vascular diseases	*Neoplasms*	*Other diseases*
Cases with thromboses ..	26	15	18
Cases without thromboses ..	25	12	19

$x^2 = 0 \cdot 19$. n=2. p not considered to be significant.

In this series of 59 cases, 16 shewed evidence of previous ante-mortem thrombosis. The difficulty of estimating the true age of ante-mortem thrombus has been stressed by Raeburn,[5] but a reasonably accurate

opinion can be given on the *probable* age of such thrombi. Of these 16 cases, 11 (approximately 19% of the total number affected) shewed thrombi which had occurred at markedly different intervals of time.

REPRESENTATIVE CASES

Case 1. Male aged 56 years. A history of previous illness was obtained. Had been on strict bed rest for only 11 days before death. Cause of death—malignant cerebral tumour.

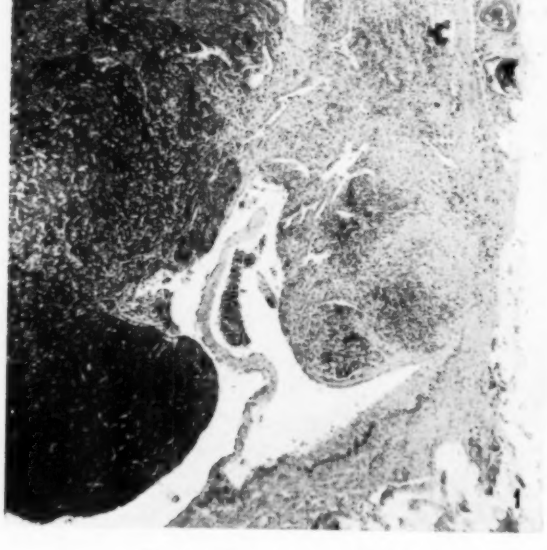

Fig. 1. Case 1. Low power

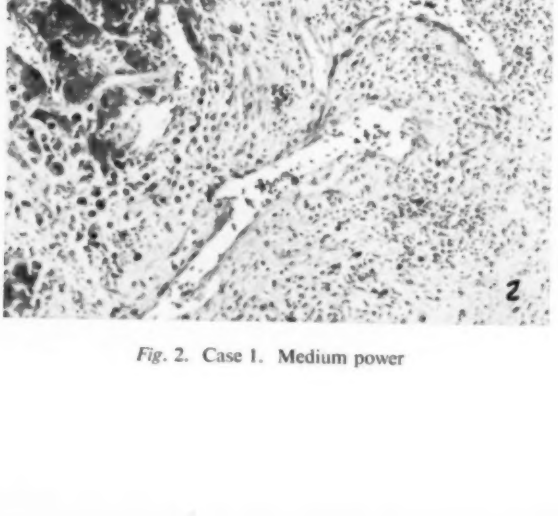

Fig. 2. Case 1. Medium power

Histology. Near the valves lies a large well-organized ante-mortem thrombus. Superimposed on this old one is a recent thrombus which is just beginning to be organized by vessels extending from the old thrombus. The underlying muscle is destroyed (Figs. 1 and 2).

Comments. There is a marked difference between the two types of thrombus present. In view of the relatively short history of bed rest, it is possible that the original damage may have occurred some time prior to the terminal phase of illness.

Case 2. Female aged 65 years. A history of previous illness

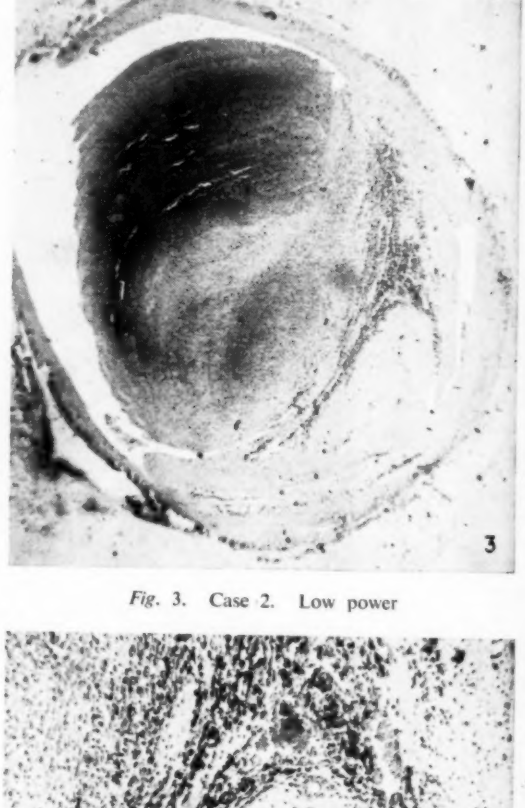

Fig. 3. Case 2. Low power

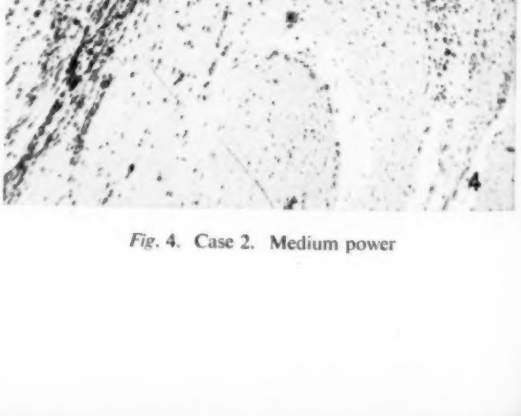

Fig. 4. Case 2. Medium power

was obtained. Had been on strict bed rest for only 5 days before death. Cause of death—coronary thrombosis.

Histology. Projecting from the vein wall is an old thrombus practically completely organized. On its free surface lies another well-organized thrombus which has extended to involve an adjacent part of the vein wall. This thrombus is still quite vascular but shews well-formed fibrous tissue in bundles. Pigmentation is marked. In addition, a very recent ante-mortem thrombus is present on the surface of this latter one; it is just beginning to shew endothelial proliferation (Figs. 3 and 4).

Comments. There have been at least 2 separate thrombotic episodes here, and one of them has certainly occurred prior to the terminal illness.

The combination of ante-mortem thrombus at the stage of early endothelialization with ante-mortem thrombus at the stage of advanced fibrosis is very suggestive of two distinct thombotic episodes separated in time by an interval measured at least in weeks. Moreover, in these two cases, it was extremely probable that the old organized thrombus had formed before symptoms in the terminal illness had necessitated medical treatment at all. Raeburn has demonstrated that the final result of organization of such ante-mortem thrombi is a pigmented scar in the wall of the vein. In these two cases however there can be seen another ante-mortem thrombus superimposed on the initial one, and apparently originating at this site of potential weakness in the vein wall.

In this group of 11 cases shewing multiple thrombotic episodes, the youngest patient was 49 years old and the oldest 80 years. In 6 cases only was there obtained a long history of bed rest during the terminal illness; in the other 5 cases the time intervals were as short as 4 or 5 days only. On the other hand 9 out of the 11 cases gave a history of a long terminal illness (although the actual type of disease varied considerably from case to case); also 9 of the 11 cases gave a history of illness occurring at an earlier age which was severe enough to necessitate strict rest in bed. The other two patients did not give such a history, but this might possibly have been due to forgetfulness on their part. All these cases had been fully ambulant before confinement to bed during the terminal illness.

It is therefore postulated that confinement to bed for some period of time previously during a former illness, has given rise to a silent thrombophlebosis. This has organized satisfactorily and caused no further trouble until the next period of enforced rest in bed, when it acted as a focus of lowered resistance.

The chances of multiple thrombi occurring in elderly patients are relatively high, and therefore correct treatment during illness becomes of increased importance among these patients. Since there was no histological evidence of inflammation present in the ante-mortem thrombi, the risk of embolus is higher than in true thrombophlebitis, because the mass of thrombus is less firmly adherent to the vein wall. Even in this small series of 11 cases there was one case of multiple pulmonary emboli which were a contributary cause of death.

The outline of methods of treatment advocated by Stillworthy[6] remains sound, but in the higher age-groups emphasis should be placed more on prophylaxis. It is suggested that clinicians should be on their guard for this complication occurring in elderly patients. Special attention should be paid to patients who are bedridden on account of some severe illness (particularly cardiovascular or neoplastic) if a history of any previous severe illness has been obtained. Even a short period of confinement to bed may be sufficient to initiate a thrombophlebotic episode—in this series of cases 4 days proved to be long enough—so that the automatic putting of any patient to bed when ill may lead to serious consequences in the distant future if the patient is young, but may be serious almost at once if the patient is aged and the above postulates are fulfilled.

SUMMARY

A series of 115 cases was used for studies on ante-mortem thromboses limited to the deep veins in the legs. These occurred in 51% of this series. Histology reports strongly suggested that recurrent thrombotic episodes occurred in the same vein at the same site but at different intervals of time. Predisposing factors for this sequence of events are discussed and it is suggested that initial damage had occurred to the vein wall while the patient was confined to bed during some previous illness, even if this happened as long ago as in young adult life. The resultant scar in the vein wall then was a potential source of weakness for the origin of a fresh thrombus if conditions ever again became favourable for its production.

A brief attempt is made to assess the type of patient most exposed to the risk of this complication and the chances of its occurring frequently among elderly patients are stressed.

I wish to thank Dr. J. L. Pinniger and Dr. H. Spencer, of St. Thomas's Hospital, London, for their help during this investigation. Mr. A. Clarke, of St. Thomas's Hospital Medical School, and Mr. A. Scott, of the Natal Medical School, Durban, took the photographs.

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ELEPHANTIASIS OF THE SCROTUM

REPORT OF A CASE

S. V. HUMPHRIES, M.A., M.R.C.S., L.R.C.P.

The case here described was treated in Sierra Leone. The condition of the patient on admission is shown in Fig. 1, and 3 months later, after operation, in Fig. 2.

Authorities insist that patients with filarial elephantiasis should be cured of hookworms before operation. This patient required 4 treatments with anthelmintics before his stools were free.

No anaesthetist was available. The anaesthetic employed was a combination of continuous caudal and local anaesthesia. This proved satisfactory, except that the patient got tired of being kept in the lithotomy position after about 2 hours. The position was therefore changed to one in which he was lying with his legs over the sides of the table, his feet being supported by chairs. After a further period he was put back into the lithotomy position, which provided a better exposure.

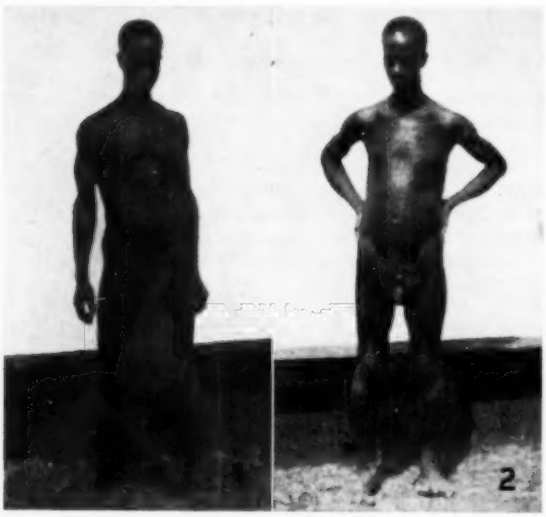

Fig. 1. On admission.

Fig. 2. Three months later, after operation.

Incisions were first made over the two inguinal rings and continued downwards to form a flap of normal skin in front by joining the incisions at their lower ends by a transverse incision. The skin was undermined to open up the lymphatic spaces, gauze being packed in under the flap and pressure applied by an assistant. The vessels were secured afterwards as the gauze was removed.

The spermatic cords and root of the penis were dissected out and isolated with loops of gauze. This was the most difficult part, for the structures were not easily recognizable. The penis, cords, and testes were then completely separated from the elephantoid mass through vertical incisions. A circular incision was made round the preputial opening, saving as much prepuce as possible. The penis, testes and cords were then wrapped in gauze and placed on the lower abdomen while the elephantoid mass was amputated. Bleeding vessels were dealt with as encountered. I was anxious to avoid using a tourniquet for fear of cutting off the blood supply of the penis and testes for too long a period, but it would have been much easier to work with a tourniquet, and loosen it periodically.

The perineal muscles were bared slightly to open up lymphatic channels. The testes were easily covered over with the remaining flaps of skin. The penis was brought out through a hole in the anterior flap to which the dorsal part of the prepuce was stitched, but a small area on the lower surface of the base of the penis could not be covered with the prepuce as it did not extend far enough backwards. It was pinch-grafted later.

The main cause of difficulty in obtaining haemostasis was that the ligatures slipped off the vessels owing to the greasiness of the tissues. Transfixion ligatures therefore had to be employed.

The tumour weighed 38 lbs.

A blood transfusion was given afterwards.

I am indebted to Dr. Lovett-Campbell for advice about the technique of the operation.

S. V. Humphries

A NOTE ON PSYCHIATRIC DIAGNOSIS

J. J. DE VILLIERS, M.B., CH.B. (EDIN.)
Pretoria

General practitioners faced in their practice with a case of psychosis can usually recognize a schizophreniac by the bizarre, childish, illogical personality of the patient. It is when they have to deal with paranoid states, paranoia, paraphrenia and the early stages of manic-depression that possibly the greatest difficulties in diagnosis arise. The table herewith setting out personality factors should be of value to the practitioner. The expert in psychiatry looks for many other features as well, but the characteristics given in the table, which are based on many standard textbooks on psychiatry, should be useful for diagnosis.

The tendency of manic-depressive insanities to be self-limiting in duration is well known, but a certain number go on to chronic mania and chronic alternating states, and it is these that are particularly envisaged by the later sequences given in the table under the heading of Hypomania.

SOME SALIENT DIAGNOSTIC INDICATORS

	Paranoia | *Paraphrenia*	*Hypomania*
Onset	Insidious over years	Acute in days or weeks
Personality prior to illness ..	Introverted ± Uneasy, brooding, sensitive, unforgiving	Extroverted ± Easy-going, patronizingly forgiving
Personality in first stages of illness	Suspicious Persecuted Consistent towards aims Moral Unethical ± Irritable Hypersensitive False beliefs concerning others coming from misinterpretations Sense of tiredness and strain Self-derogatory reference ideas	Overbearing Persecuting Inconsistent enthusiasm Immoral Unethical + Irritable Hypersensitive False statements from false sense of power Sense of abundant energy Self-flattering refs.
Personality in later stages of illness	Suspicious Grandeur Hatred Irritability	
	Unforgiving and bitter from injured pride	Unforgiving except when patronizing
	Delusions. No hallucinations Introverted. Feelings easily hurt	Delusions with hallucinations Introversion or extroversion	Delusions and hallucinations Extroverted. Feelings not easily hurt
	Retiring and complaining	Complaining with bursts of anger	Exhibitionism and ornamentation
	Arrogant when roused	Arrogant at intervals	Arrogant persistently
	No insight into mental deviation		
Personality in final stages of illness	Suspicious Hatred Unforgiveness		
	Grandeur with uncertainty Self-admiration with frigidity	Grandeur with persecution Self-admiration and part-inversion	Grandeur with obnoxiousness Self-admiration with general lustfulness
	Delusions. No hallucinations Irritability and querulousness No dementia. Some retardation Partial insight	Delusions with hallucinations Irritability and vociferousness Dementia No insight	Delusions and hallucinations Irritability and obscenity Dementia with remissions Some insight with remission
Death usually from	Old age and usual intercurrent infections and degenerative diseases	Old age etc., rarely suicide	Old age, suicide, and circulatory disorders, cardiac and cranial

For psychological investigation and treatment such as can be undertaken by the general practitioner, the reader may consult the references below. Where any physical illness is concomitantly present, such as tumour, infection or toxaemia affecting the brain, appropriate methods of physical treatment must be instituted in parallel with the psychological handling.

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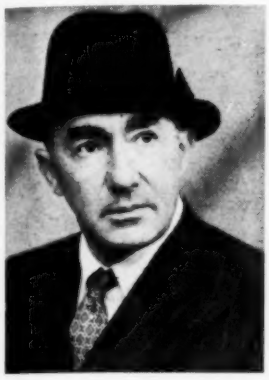
DR. A. J. GANS' WORK AT WOODSTOCK HOSPITAL : HIGH TRIBUTES FROM COLLEAGUES

A pleasant function took place at the Woodstock Hospital, Cape Town, on 30 June 1955, when the medical staff gathered to pay tribute to Dr. A. J. Gans who had resigned from the honorary visiting staff of the hospital after 28 years' service. Dr. Ruby Sharp was in the Chair.



Dr. A. J. Gans

Mr. Lane Forsyth said that as a fine gentleman, a very able doctor, and a valued colleague on the staff, Dr. Gans had been a true stalwart of the hospital, ready at all times to serve its many needs.

Dr. S. Sieff said that he had known Dr. Gans for nearly a lifetime, during his days as a student at Edinburgh as well as in close association with him at the Woodstock Hospital. He spoke of his great admiration not only of the quality of Dr. Gans' work in the medical field but also of his fine and enlightened mind and his kindly attitude towards his fellow men. He hoped that Dr. Gans would have many more years to reap the benefit of the work that he had done and was still doing so ungrudgingly, devotedly and ably.

Dr. Wolf Rabkin said of Dr. Gans that his attitude, as he smoked his pipe, was massive, reflective and firm of purpose, and his observation was quick and unobtrusive. Dr. Gans was an artist. He appreciated poetry, painting and music, played several musical instruments, and built violins as a hobby. In his general practice he had interested himself in several lines of research and would have been a useful acquisition to the research laboratory. Since long before the era of the Workmen's Compensation Act, Dr. Gans had been a faithful servant of the hospital, exercising the Hippocratic oath at the highest possible level. Dr. Rabkin spoke of Dr. Gans' courage and stoicism even in ill-health and his uprightness and versatility.

Dr. Ruby Sharp lauded Dr. Gans' magnificent contribution to the welfare of the hospital. She particularly admired his quiet, unobtrusive but extremely efficient manner, and on behalf of the medical staff presented Dr. Gans with a suitably inscribed watch as a token of appreciation from his colleagues.

Dr. A. W. Falconer, Medical Superintendent, expressed his good wishes and assured Dr. Gans of a hearty welcome whenever he wished to re-visit or work in the hospital.

Dr. Gans in his reply said that, although retired from active work in the hospital, he would continue to harbour a very keen interest in the welfare of the institution which he held so very dear to his heart.

NEW PREPARATIONS AND APPLIANCES : NUWE PREPARATE EN TOESTELLE

Chloromycetin-Hydrocortisone Ophthalmic. P.D. & Co. (Pty.) Ltd., the South African subsidiary of Parke-Davis and Company, announce the introduction of this antibiotic-hormone combination for topical application in infections of the eye, and submit the following statement:

The wide antibacterial activity of Chloromycetin makes this an antibiotic particularly suited to the treatment of ophthalmic infections while the small size of the Chloromycetin molecule enables it to penetrate the deep tissues of the eye. The advantages of hydrocortisone in the treatment of inflammatory conditions of the eye are well known, the therapeutic action of hydrocortisone being exerted through all layers of the eye, with the result that pain and photophobia are noticeably relieved. The danger of new blood vessels forming across the transparent media of the eye is reduced, and the destructive and irreversible consequences of severe eye inflammations are often prevented. Thus Chloromycetin-Hydrocortisone Ophthalmic is a particularly effective combination in treating acute and chronic infective conditions of the eye, because the infection is rapidly controlled by the Chloromycetin component while the hydrocortisone promotes rapid healing with a minimum formation of scar tissue.

Indications

1. Acute inflammatory diseases of the anterior segment such as iritis, phlyctenular keratoconjunctivitis, marginal ulcer, the bulbar form of vernal conjunctivitis, and congenital syphilitic keratitis.

2. Infections of the outer eye and adnexa caused by either *Micrococcus pyogenes var. aureus*, beta haemolytic streptococci, pneumococci, *Escherichia coli*, *Haemophilus influenzae* or *Moraxella lacunata*.

3. Traumatic lesions of the eye.

Usage

Chloromycetin-Hydrocortisone Ophthalmic is prepared for use by adding 5 c.c. of sterile distilled water to the contents of the vial under aseptic conditions and shaken to make a uniform suspension. The dosage is variable and depends upon the judgment of the physician, who must consider the severity of the infection, diagnosis, duration of infection before treatment, and the response of the patient. The suggested treatment schedule is as follows:

1. First 24-48 hours: 2 drops to the affected eye every 1-3 hours night and day.

2. After 24-48 hours: 2 drops every 3-4 hours during the day, night instillations being omitted if desired. Continue until the eye has appeared normal for 48 hours.

Treatment with Chloromycetin-Hydrocortisone Ophthalmic should not be abruptly stopped since relapse is more likely to occur on sudden cessation of therapy than when tapered slowly to conclusion. Should relapse occur, the schedule of treatment outlined above should be started again.

Package Information

Vials of 5 c.c. with a dropper, each vial containing in dry form 12·5 mg. of Chloromycetin and 25 mg. of Hydrocortisone acetate with borate buffer for the preparation of 5 c.c. of suspension by adding sterile distilled water before use.

PASSING EVENTS : IN DIE VERBYGAAN

International Congress on Paediatrics. Dr. Seymour Heymann has been invited to take part in the Plenary Sessions on Tuberculosis to be held at the VIII International Congress on Paediatrics in Copenhagen from 22 to 27 July 1956. His address will be on the Treatment of Tuberculous Meningitis.

Subjects of the Plenary Sessions will be: 23 July—(1) Genetic injuries from irradiation (atomic bomb). (2) Prenatal infections. (3) Prenatal prophylaxis.

23 July—(1) Fluoridated water in the prevention of dental caries. (2) Dangers involved in the use of antibiotics. (3) Dangers from industrially manufactured goods.

24 July—(1) Mechanism of anoxia. (2) Pathological anatomy of anoxia. (3) Oxygen therapy—value and risks.

24 July—(1) Malignant diseases in childhood. (2) Urological problems. (3) Late results of operation for ayanotic heart diseases.

25 July—(1) Neuroses in childhood. (2) Prevention of accidents. (3) Early diagnosis of mental deficiency.

25 July—(1) Hydrocephalus. (2) Cerebral palsy: results of long-term physiotherapy. (3) Kernicterus.

26 July—(1) Vaccination against poliomyelitis.

26 July—(1) Bacterial allergy: diagnosis and incidence. (2) Bacterial allergy: treatment and results.

27 July—(1) Kwashiorkor. (2) Chagas' Disease. (3) Ascariasis.

27 July—(1) Prophylaxis of tuberculosis. (2) Treatment of primary tuberculosis. (3) Treatment of tuberculous meningitis.

Proffered papers will be read in *sectional meetings*. It is also planned to arrange *round-table conferences* on the following subjects: (1) Auricular septal defect. (2) Epilepsy. (3) Leukaemia. (4) Haemophilia. (5) Amino acid metabolism. (6) Nephrosis. (7) Water and electrolyte metabolism in dehydration. (8) The adreno-genital syndrome.

Films of paediatric interest will be shown in the Congress Cinema. A scientific and technical exhibition will be arranged in connection with the Congress. The preliminary programme will be sent out in a few weeks.

Further information is obtainable from: VIII International Congress of Paediatrics, Domus Medica, 12 A Kristianiagade, Copenhagen, Denmark.

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Dr. H. Levon, M.B., Ch.B. (Cape Town), D.M.R.D. (Edin.), who recently returned from the United Kingdom and Scandinavia, where he has been working on Radiology, has joined Dr. F. N. Gillwald in radiological diagnostic practice at Weskant Building, Wessels Street, Odendaalsrus (Telephone 248), and President Building, Welkom (Telephone 214), O.F.S.

* * *

Dr. Francis W. Slate, who has been in the United States for the past 3 years obtaining surgical training, is at present Chief Resident in Surgery at the St. Elizabeth's Hospital, Washington D.C.

BOOK REVIEWS : BOEKRESENSIES

SURGERY OF THE INTESTINES

A Handbook of Operative Surgery. Surgery of the Small and Large Intestine. By Charles W. Mayo, M.D. Pp. 340 with 94 plates. $9.00. Chicago: Year Book Publishers, Inc. 1955.

Contents: 1. Diet. 2. Surgical Instruments. 3. Incisions. 4. Blood supply and Lymphatic Drainage of the Small Intestine. 5. The Duodenum. 6. The Jejunum. 7. The Ileum. 8. Obstruction in the Small Intestine. 9. Surgical Considerations of the Vascular System. 10. Preoperative Preparation. 11. Postoperative Care. 12. Benign Lesions: Surgical Treatment. 13. Malignant Lesions: Surgical Treatment. 14. Colostomy: Surgical Technics. 15. Intestinal Anastomosis: Surgical Technics. 16. Congenital Malformations of the Rectum and Anus. 17. Prolapse of the Rectum. 18. Anal Surgical Technics. Index.

This book, by the Professor of Surgery, Universty of Minnesota, deals purely with surgery of the intestines including the rectum. It does not cover the oesophagus, the stomach or the biliary tract, or the surgery of abdominal hernia. The obvious intention, as stated in the preface, is to present concise descriptions and illustrations of the more common procedures pertaining to this field of surgery. The book deals almost entirely with surgical technique. The illustrations are numerous, semi-diagramatic but of good quality, and integrated with the text; the description of technique is in the form of numbered paragraphs with the illustrations applicable to each paragraph correspondingly numbered. This arrangement is very convenient in that the text and the corresponding illustrations are always on facing pages.

The techniques described are, on the whole, standard procedures, but in several respects it is interesting to note how they differ from current practice in South Africa and England. It is doubtful if the established surgeon or the surgical trainee will find this book much to his liking for, in trying to be concise, the author has sacrificed detail. For the undergraduate, on the other hand, its scope is unnecessarily wide.

J.M.H.

PHYSIOLOGY

A Textbook of Physiology. Edited by John F. Fulton, M.D. Seventeenth Edition. Pp. 1275+xlii, with 600 illustrations. $13.50. Philadelphia & London: W.B. Saunders Company. 1955.

Contents: 1. An Introduction to the Study of Nervous Tissue. 2. The Nerve Membrane, Excitation, and Impulse Conduction. 3. Nerve After-Potentials and Metabolism. 4. Special Physiology of Nerves and Tracts. 5. Special Properties of the Soma and Axon Endings. 6. Synaptic Mechanisms. 7. Principles of Spinal Reflex Activity. 8. Functional Activity of Muscle. 9. Energy Transformations in Muscle. 10. Acetylcholine and Energy Transformations in Nerve Cells. 11. The Human Spinal Cord: Spinal Injuries. 12. Decerebrate Rigidity and the Postural Reflexes: Medulla Oblongata and Reticular Formation. 13. Autonomic Nervous System: Peripheral Division. 14. Hypothalamus: Autonomic and Somatic Functions. 15. Limbic System: Autonomic and Somatic Functions. 16. Cerebral Cortex: Structure and Motor Functions. 17. Basal Ganglia and Cerebellum. 18. Somatic Sensation. 19. Neural Basis of Somatic Sensation. 20. Pathophysiology of Pain 21. Taste, Olfaction, and Visceral Sensation. 22. Audition and the Auditory Pathways. 23. The Eye as an Optical Instrument. 24. Vision. 25. Binocular Vision and Central Visual Pathways. 26. Association Areas and the Cerebral Cortex in General. 27. General Properties of Blood: The Formed Elements. 28. Physical Chemistry of Blood. 29. Coagulation of Blood. 30. The Capillaries and the Lymphatics. 31. Hemodynamics. 32. Mechanical Events of the Cardiac Cycle. 33. Electrical Correlates of the Cardiac Cycle. 34. Cardiac Output: Regulation and Estimation. 35. Nutrition of the Heart. 36. The Pressure Gradient in the Vascular System: Its Establishment and Estimation. 37. The pulse. 38. Vasomotor Regulation. 39. Circulation through Special Regions. 40. Anatomy and Physics of Respiration. 41. Gas Exchange and Transportation. 42. The Neurogenesis of Respiration. 43. Regulation of Respiration. 44. Physiology of Body Fluids. 45. The Kidney. 46. The Urinary Bladder. 47. Cerebrospinal Fluid. 48. General Functions of the Digestive System. 49. The Mouth and Esophagus 50. The Stomach. 51. The Small Intestine. 52. The Large Intestine. 53. Energy Exchange. 54. Intermediary Metabolism. 55. Nutrition. 56. Regulation of Energy Exchange. 57. The Hormones. 58. The Hypophysis. 59. The Pancreas. 60. The Adrenals. 61. The Thyroid Gland. 62. The Parathyroid Glands. 63. Reproduction in the Female. 64. Reproduction in the Male. Index.

The seventeenth edition of this justly popular book maintains the high standard set by its predecessors. It has been brought well up-to-date and there are a number of new contributors, including Helen Payling Wright, who describes the general properties of blood and its formed elements, Rosemary Biggs, who presents current views on blood coagulation and its disorders, W. D. Blake who is responsible for the section on body fluids and kidney function, and I. R. Forbes, who writes one of the chapters on reproduction. As a result of judicious editing the new edition is no larger than its immediate predecessors.

Recent work on the nervous impulse and on synaptic transmission is well presented and, in the section on the central nervous system, a whole chapter is now devoted to the hypothalamus and another to the rest of the limbic system. A disproportionate amount of space is devoted to the nervous system and special senses (503 out of 1252 pages of text) but, in spite of this, there are no serious gaps in other sections of the work. Throughout the book emphasis is laid on the clinical applications of recent discoveries in physiology.

As in previous editions each chapter ends with a useful list of references to recent work, in some cases as recent as 1954.

It is hardly necessary to recommend such a well-established general text-book. While, in the reviewer's opinion, it is rather large and too advanced for a first text-book of physiology, Fulton will continue to be popular with advanced students, postgraduates, and professional physiologists. The physician or surgeon who wishes to bring his knowledge of physiology up to date, should read this book.

A.W.S.

GYNAECOLOGY

Gynaecology. By Douglas H. MacLeod, M. S. (Lond.), F.R.C.P. Lond.), F.R.C.S. (Eng.), F.R.C.O.G. and Charles D. Read, M.B. (N.Z.), F.R.C.S. (Eng.& Ed.), F.R.A.C.S., F.R.C.O.G. Fifth Edition. Pp. 864+xii with 551 illustrations. 80s. London: J. & A. Churchill Ltd. 1955.

Contents: 1. The Anatomy and Development of the Female Genital Organs. 2. Physiology. 3. Methods of Examination. 4. Disorders of Development. 5. Disorders of Function: Menstruation. 6. Disorders of Function: Conception. 7. Disorders of Function: Extra-Uterine Gestation. 8. Infections of the Female Pelvic Organs. 9. Diseases of the Vulva and Perineum. 10. Diseases of the Vagina. 11. Diseases of the Uterus. 12. Endometrial Hyperplasia—Uterine Polypi. 13. Fibromyomata of the Uterus. 14. Endometriosis. 15. Carcinoma of the Uterus. 16. Carcinoma of the Uterus: Cancer of the Cervix. 17. Carcinoma of the Uterus:

Carcinoma of the Corpus Uteri. 18. Chorionephithelioma. 19. Sarcoma of the Uterus. 20. Injuries to the Uterus. 21. Inversion of the Uterus. 22. Displacements of the Uterus. 23. Prolapse of the Pelvic Organs. 24. Tubal Cysts and Cysts of the Broad Ligament. 25. Inflammation of the Fallopian Tube and of the Ovary. 26. Tumours of the Fallopian Tube. 27. Tumours of the Ovary. 28. Tumours of the Ovary: True Neoplasms of the Ovary. 29. Tumours of the Ovary: Carcinoma of the Ovary. 30. Connective-Tissue of the Ovary. 31. Tumours of the Ovary: Teratoma and Complex Tumours. 32. Tumours of the Ovary: Functioning Tumours. 33. Complications of the Ovarian Tumours. 34. Clinical Features of Ovarian Tumours. 35. Gynaecological Diagnosis and Treatment. 36. General Considerations of the Technique of Gynaecological Operations. 37. Abdominal Operations. 38. Vaginal and Vulval Operations. 39. The After-Treatment of Gynaecological Operations. Index.

McLeod and Read must be congratulated on the fifth edition of their book. In the 20 years that have elapsed since the previous edition great strides have been made in every field of medicine. Despite this the layout of the book is virtually set by Eden & Lockyer. A valuable innovation is the inclusion of references as a 'Guide to further reading' at the end of each Chapter.

The first chapter, on Anatomy and Development, has been completely rewritten and the old illustrations replaced by line drawings which are most effective in supplementing the text. The section on embryology is particularly well written and easy to follow.

Welcome additions to methods of examination are the colposcope and details of the technique of taking vaginal smears and cervical scrapings.

A better understanding of endocrinology has necessitated the rewriting of the chapters on Physiology and Disorders of Function. While space does not permit discussion of some of the finer details of the subject the broad outlines are boldly sketched in. Excellent photographs illustrate the conditions mentioned in the text. The section on infertility deserves special mention and will be of great assistance to anybody faced with this only too frequent problem.

The development of antibiotics has revolutionized the treatment of infections. The descriptions of their symptoms and clinical course, however, still holds good although the severe advanced case is now seldom encountered.

Carcinoma of the cervix presents interesting features. On the one hand the value of smears in the diagnosis of pre-clinical cancer is now established. On the other hand, owing to the development of antibiotics and a better understanding of the metabolic response to surgery, more extensive operations can be performed than ever before. It is interesting to note that the authors consider surgery to be the treatment of choice in stage-I and stage-II cases.

In cancer of the body, while surgery remains the treatment of choice, it is noted that the cure rate is substantially improved by the use of pre-operative intra-uterine irradiation or X-ray therapy.

In the surgical section the common gynaecological operations are described and illustrated. Some of the less commonly performed operations described in earlier text-books have been omitted. The importance is stressed of performing total rather than a subtotal hysterectomy.

The section on post-operative management and complications has not been brought fully up-to-date. Fowler's position is still advocated post-operatively and prostigmine recommended for patients with paralytic ileus.

This book gives a comprehensive review of the present state of gynaecology and will be found to be invaluable to students, general practitioners and specialists.

D.M.

EXPOSURE TO COLD

Man in a Cold Environment. Physiological and Pathological Effects of Exposure in Low Temperatures. By Alan C. Burton, Ph.D., and Otto G. Edholme, M.B. B.S. Pp. 273+xiv with 75 illustrations. 30s. London: Edward Arnold (Publishers) Ltd. 1955.

Contents: 1. Homeothermy and History. 2. The Problem of the Homeotherm, the Heat-balance and Physical Laws. 3. The Thermal Insulation of the Air. The Thermal Insulation of the Clothing or Fur. 5. The Thermal Insulation of the Tissues of the Body. 6. The Possibilities of Maintaining a Thermal Steady State in the Cold, and how Arctic Animals do so. 7. The Estimation of the Thermal Demand of the Environment. 8. Vascular Reactions to Cold. 9. The Metabolic Response to Cold. 10. Acclimatization to Cold. 11. Hypothermia and Resuscitation. 12. Local Cold Injury. 13. Problems for Future Research. Index.

This book is the second of the new series of monographs being published by the Physiological Society. It deals with the physiological problems associated with life in a cold environment and with the pathological results of failure to maintain the body temperature in such an enviroment. Much of the work described was performed during the second world war and has previously been published only in special military reports.

The physics of heat transfer from the 'core' of the body to the skin and thenoe to the environment is explained and correlated with the physiological factors which influence the rate of heat loss from the body. The 'clo' unit for the thermal insulation of clothing is defined and its application illustrated. Experiments are described which demonstrate the metabolic response of man and other animals to a cold environment, and the question of human acclimatization to cold is discussed at length. The effects of hypothermia are described as are those of local injury due to cold; the appropriate treatment for each of these conditions is detailed.

Although the book is on a highly specialized subject it is written from the point of view of the general physiologist, physician, or surgeon, whose work falls into this field. The book is well presented, readable, and singularly free from errors. It may be recommended with confidence as an authoritative review of the subject.

A.W.S.

THE PTERIDINES

Ciba Foundation Symposium on Chemistry and Biology of Pteridines. Edited by G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch., and Margaret P. Cameron, M.A., A.B.L.S. (Pp. 425 + xiv, with 143 illustrations and diagrams. 42s.) London: J. & A. Churchill Ltd. 1954.

Contents: 1. Ring-opening reactions of pteridines. 2. The alkylation of pteridines. 3. The reduction and reoxidation of some 8-substituted pteridines. 4. The mono-substituted pteridines. 5. Some aspects of the ultraviolet absorption spectra of the pteridines. 6. The use of o-aminonitroso compounds in the synthesis of pteridines and some analogous ring-systems. 7. Recent developments in pteridine synthesis. 8. Chromatographic and electrophoretic studies of pteridines. 9. The constitution of urothione. 10. The pteridines of Drosophila melanogaster. 11. The constitution of fluorescyanine. 12. New observations on fluorescyanine. 13. New observations on fluoresxcyanine B. 14. Sulphonamide derivatives of pteridines. 15. Some dipyrimidopyrazines. 16. Structural studies on pyrimidopteridines—the structure of 'bisalloxazine' and 'diuracilpyridazine'. 17. Some unresolved problems. 18. Metabolic relations between p-aminobenzioc acid and folic acid in micro-organisms. 19. The function of folic acid in the biosynthesis of purine and pyrimidine derivatives. 20. The effects of folic acid analogues on the growth and cell division of micro-organisms. 21. Antimetabolic and antimicrobial properties of certain 2 : 4 diaminopteridines. 22. Derivatives of condensed pyrimidine systems as antimetobolites. 23. The biological activity of folic acid and certain substituted pteridines for Tetrahymena. 24. The yellow pigment of the argentaffine cells of the mammalian gastro-intestinal tract. 25. The mode of action of folic acid antagonists and the function of the Leuconostoc citrovorum factor. 26. The effects of folic acid antagonists on embryonic development. 27. Studies on pteridine metabolism. 28. Some aspects of disordered folic acid metabolism in man. 29. Occurence of hepatic fibrosis in children with acute leukaemia treated with folic acid antagonists. Index.

The story of the pteridines started in the school days of Sir Frederick Gowland Hopkins, when he used to catch butterflies. One day he happened to put the wings of a butterfly in a spoon, put some water on them and heated them over the kitchen fire. To his amazement he saw the pigment streaming out into the water. This impressed him so much that when he had finished his medical training and had become a young doctor at Guy's Hospital in 1889 his first scientific investigation was concerned with the pigment in the wings of butterflies. Later work in 1896 led him to the conclusion that the pigment was a derivative of uric acid.

Some 40 years later Wieland and Purrmann of the Munich school of organic chemists showed that the pigment was not a purine but a related substance of a group hitherto unknown. This group is now called the pteridines. The work on the chemistry of these substances might have remained of academic interest had it not been for the discovery in 1945 that a vitamin first found in green leaves but later shown to have a widespread distribution is a pteridine compound. This vitamin is folic acid and it occurs in the form of several modifications of the same basic structure known as pteroyl-glutamic acid.

Part I of this book is a reflection of the tremendous strides that pteridine chemistry has made in the last 15 years. It can be understood and appreciated only by those who possess an advanced knowledge of organic chemistry.

Part II makes easier reading and the last two chapters especially, will appeal to readers of this *Journal*.

Investigation of such problems as the function of folic acid in the biosynthesis of the purines and the pyrimidines, the effects of folic acid antagonists on embryonic development and studies on cell growth show how important and fundamental the functions of the pteridines have become.

H.Z.

CEREBROVASCULAR DISEASE

Cerebrovascular Disease. By J. Peter Murphy, M.D. Pp. 408 with illustrations. $12.00. Chicago: Year Book Publishers, Inc., 1954.

Contents: 1. Embryology of the Intracranial Vessels. 2. Anatomy of the Arteries of the Brain. 3. The Veins and Dural Venous Sinuses. 4. Nerve Supply of the Intracranial Vessels. 5. Physiology of the Intracranial Circulation. 6. The Acute Cerebrovascular Accident: Examination. 7. Cerebral Vasospasm. 8. Cerebral Thrombosis; Infarction. 9. Cerebral Embolism. 10. Cerebral Hemorrhage. 11. Subarachnoid Hemorrhage; Intracranial Aneurysm. 12. Vascular Tumors: Arteriovenous Malformations of the Brain. 13. Intracranial Venous Disease; Venous Sinus Disease. 14. Hypertensive Brain Disease. 15. Cerebral Arteriosclerosis. 16. Inflammatory and Collagenous Diseases. 17. Blood Dyscrasias; Vitamin Deficiencies; Poisons. 18. Headache. 19. General Management of the Patient. 20. Diagnostic Technics. 21. Therapeutic Technics.

Some few neuro-surgeons have written ably and well on subjects somewhat broader than the confines of their own very special techniques and this book on cerebrovascular disease by an American neuro-surgeon is an example of this. It is doubly welcome because it is not only a good book but also because it is so good to see very specialized surgeons mastering every conceivable aspect of their limited fields.

Cerebrovascular disease stands high on the classified list of diseases as regards both mortality and morbidity, and there is no doctor, be he general practitioner, physician, neurologist or neuro-surgeon, but has frequently to deal with these cases, so varying in type. All of them will find this book most useful, for it brings between a single cover a survey of every aspect of disease of the cerebral vessels, such as is otherwise only to be found scattered through many different volumes and monographs.

The opening chapters on the embryology, anatomy and physiology of the cerebral circulation are particularly good and the author has obviously made a very careful study of all the available literature and presents his facts succinctly yet completely. He is equally satisfactory in dealing with surgical conditions, such as intracranial aneurysms and other vascular anomalies. Some other conditions may not receive the same high standard of treatment, and this is especially so in the types of illness that seldom if ever come within the purview of the neuro-surgeon. It is misleading to state that the mortality from puerperal cerebral venous thrombosis is as high as '30 to 56 %'; the condition is commoner than is realized and the less severe cases with very good prognosis far outnumber the serious ones with poor prognosis. It is doubtful whether the inclusion of the meningo-encephalitides, collagen diseases etc. is necessary in a book of this sort; they are very superficially dealt with and are not really comprised in the term cerebrovascular disease.

The book can be thoroughly recommended despite these minor criticisms and should be of great use to the majority of active practitioners.

S.B.

CHILDBIRTH WITHOUT FEAR

Childbirth Without Fear. By Grantly Dick Read, M.A., M.D. Third Edition. (Pp. 243+xii. 10s 6d.). London; William Heinemann. 1954.

Contents: 1. The Science of Obstetrics. 2. A Philosophy of Childbirth. 3. Anatomy and Physiology. 4. The Pain of Labour. 5. Factors Predisposing to Low Threshold of Pain Interpretation. 6. Fear. 7. Imagery and the Conditioning of the Mind. 8. The Fear of Childbirth Part I, II and III. 9. Diet in Pregnancy. 10. The Phenomena of Labour. 11. The Relief of Pain in Labour. 12. Hypnosis in Childbirth as a Means of Pain Relief. 13. The Conduct of Labour. 14. Breast-Feeding. 15. The Husband and Childbirth. 16. Antenatal Procedures. 17. In Conclusion. Index.

First published in 1942 as 'Revelation of Childbirth', this book has enjoyed ever-increasing popularity and earned its author world-wide renown.

In preparing this edition large sections have been completely re-written and much new material added. The main theme, however, remains unchanged, viz. that with adequate preparation and management childbirth can be relatively, if not actually painless in 96% of cases.

The author maintains that pain in labour arises from excessive uterine neuro-muscular tension, initiated or aggravated by fear—the 'fear-tension-pain syndrome'. To abolish fear and promote confidence he evolved a scheme of antenatal education which includes supervised physical relaxation and exercises, constant reassurance, and elementary instruction in the physiology of childbirth. His methods, now widely and often successfully practised, demand conscientious and time-consuming effort if the excellent results he claims are to be equalled.

Special features of this edition are chapters on 'the husband and childbirth' and on breast-feeding, and photographs to indicate postures assumed during relaxation, antenatal exercises and labour.

Although the efficacy of his technique is not doubted, some of Dr. Read's opinions and premises invite serious criticism on academic grounds. Furthermore, he often appears overenthusiastic and, while dramatic, even lyrical, portrayal of situations is permissible in a 'medical' book intended primarily for laymen, scornful and patronizing reference to 'unenlightened' colleagues is surely bad taste and unworthy of a doctor. One must concede, however, that by his tireless efforts to dispel the traditional fear of childbirth and secure a better understanding of the emotions of the expectant mother the author has rendered humanity a service of which he may rightly be proud.

This book should prove helpful to all closely concerned with childbirth, and the author's remarkable insight into feminine psychology assures it of an even wider appeal.

D.R.M.

FOOD AND FEED RESOURCES

A Survey of the Food and Feed Resources of the Union of South Africa. By G. van de Wall, M.Sc. Agric. (Pret.) and E. D. Alvord, Jnr., M.Sc. Agric. (Pret.). Pp. 312+xiv, with figures. Pretoria: J. L. van Schaik, Ltd. 1954.

Contents: Part I. The Nutritional Background of the Animal Industry and the Contribution of the Industry to Human Food Requirements. Section I. 1. Introduction. 2. General Methods of Approach. *Section II.* The Resources Available for the Nutrition of Animals. 1. Natural Veld. 2. Supplementary Feeds. 3. A Comparison of Veld and Supplementary Feeds. 4. Summary. *Section III.* The Livestock Population. 1. Numbers and Trends. 2. Maintenance Requirements of Grazing Stock. 3. Requirements for the Production of Pastoral Foodstuffs. 4. Regional Study, 1945-46. 5. Summary. *Section IV.* The Production of Foods of Animal Origin Used for Consumption by Humans. 1. Meat. 2. Dairy Products. 3. Fish. 4. Eggs. 5. Summary. *Section V.* General Discussion and Conclusions. 1. Discussion. 2. Summary and Conclusions. 3. Literat ure Cited.

Part II. The Production and Consumption of Primary and Secondary Foodstuffs for Human Consumption. Section I. 1. Introduction. 2. The Problem and the Plan. *Section II.* The Production of the Primary Foodstuffs. 1. Grains and Derivative Products. 2. The Vegetable Crops. 3. The Saccharine Materials. 4. The Fruit Crops. 5. Summary and Conclusion. *Section III.* The Utilization of the Primary and Secondary Foodstuffs for Human Consumption in the Union. 1. The Utilization of Grains and their Derivative Products. 2. The Utilization of the Vegetable Crops. 3. The Saccharine Materials. 4. Fruits. 5. The Imports and Exports of Miscellaneous Primary and Manufactured Foodstuffs. 6. Summary. *Section IV.* The Conversion from Production Units into Nutritional Units of all Primary and Secondary Foodstuffs used for Human Nutrition. 1. The Conversion Factors. 2. The Contribution by the Various Categories to the Total Nutrition. 3. Summary. *Section V.* General Discussions and Summary. 1. Population Growth and Trends. 2. Human Food Requirements as Compared with Total Available Food. 3. Conclusions and Recommendations. 4. Deficiencies in the Statistics. 5. General Summary. 6. Literature.

This is the first attempt to investigate in detail the food resources of South Africa, and thus represents work of a pioneering nature that must have required much patience and hard work. Carefully planned, fully documented, and illustrated by means of numerous tables, graphs and maps, this study should serve as a mine of authentic information for the growing number of students who are concerned about the future of a country where food production is beset by many difficulties, where soil erosion is widespread, and where it is believed the population will have doubled before 1990. The authors make a particularly valuable attempt to estimate the food-production contribution made by our veld, both in animal products and food crops, and then proceed to determine the total amounts of protein, carbohydrates and fats, and hence calories, available to the present population and to consider their adequacy when judged by the standards set up by the National Nutrition Council. In their conclusions the authors point out that the total consumption of food in this country has been increasing at a considerably faster rate than its production, 'indicating the possibility of a serious shortage of internal food supplies in the near future'. We may compare this statement with the opinion of the Department of Agriculture that our food production now requires to be increased at the rate of some 20% every 10 years. The writers are highly critical of the low average efficiency of production and remark that 'compared with other countries South Africa is at best only a third-class agricultural country.' Since they agree that the possibility of expanding the area under arable farming is limited they are convinced that it is in this improvement in agricultural efficiency

that the hope for the future lies. If, however, our natural resources were better used, they believe that we could remain nutritionally self-sufficient, even when the population has doubled. It is a pity that there is no index, but the publishers are to be congratulated on the excellence of their work.

F.W.F.

World Population and World Food Supplies. By Sir E. John Russell, D.Sc., F.R.S. Pp. 513, with 45 illustrations. 50s. London: George Allen & Unwin Ltd. 1954.

Contents: 1. The Problem: Feeding the World's Population. 2. The United Kingdom. Eire. 3. Methods of Increasing Food Production. 4. Northern Europe's Intensive Producers: The Netherlands, Denmark, Sweden, Finland. 5. France: the Peasant Producers of the Mediterranean Lands: Spain, Portugal, Italy, Israel, Egypt. 6. Africa's Southern Regions: the White Man's Farming. 7. Africa: The Central Regions: Eastern Group: African Peasant and European Farming. 8. Africa: the Central Regions: Western Group; African Peasant Farming. 9. Asia, India and Pakistan: Problems of Growing Population. 10. Asia, China, Japan, Indonesia and the Rice Exporting Countries. 11. The Food Exporters: (1) The United States, Canada. 12. The Food Exporters: (2) Australia, New Zealand. 13. Potential Suppliers: the South American Countries. 14. Trends in Food Production. Index.

In 1948 Sir John Orr, as Director of F.A.O., remarked that the rising tide of population and the falling reservoir of land fertility were the biggest problem that mankind had to face. The issues involved have been widely debated since the end of the last war, with conclusions reaching from extreme pessimism to great optimism.

Putting such speculations aside, the writer of this remarkable book set out to study the facts as far as they can be ascertained for each of the main food-producing countries of the world, excluding Russia. This was a formidable task, but Russell was in an exceptionally good position to undertake it for, as Director of the Experimental Station at Rothamstead, he had studied soils and food production in most of the areas concerned. In the introduction he recalls that the present is the third occasion when the likelihood of a world shortage of food has been prophesied; the first being in the days of Malthus and the second in 1898, when Crookes delivered his sensational presidential address to the British Association.

Readers will naturally turn to the section which deals with Africa's Southern Regions, where 25 pages closely filled with facts and figures are devoted to the Union of South Africa; it is stimulating to compare what he has to say here with the more detailed local study recently published by De Wall and Alvord.

The picture which finally emerges from this world-wide survey is described by the author as one of 'tempered optimism'. He reaches this view because of 3 main reasons: (*a*) the marked gap that exists between the present achievements of the average farmer and the best farmers, even in the most advanced countries, (*b*) the enormous disparity between the foregoing and the levels of food production that exist in those vast areas where agricultural conditions are still primitive, and (*c*) the completely unpredictable, but almost certainly great, possibilities for new scientific achievements in this field. But he is careful to insist that mere numbers will outstrip the food resources of the world unless, along with these developments a sound population policy is also developed.

F.W.F.

SEXUAL DIFFICULTIES IN MARRIAGE

Any Wife or Any Husband. A Book for Couples Who Have Met Sexual Difficulties And For Doctors. By Medica (Dr. Joan Graham). Second Edition. Pp. 144+xi. 10s. London: William Heinemann Medical Books Ltd. 1955.

Contents: 1. Present Day Sexual Problems. 2. Theoretical Considerations. 3. The Range of Sexual Capacity. 4. Common Disorders in Women. 5. Common Disorders in Men. 6. Common Sexual Problems. 7. Common Sexual Deviations. 8. Common Adaptations. 9. Treatments. Appendix. Bibliography. Index.

This book combines a frank and open discussion of sexual problems in married life, together with a brief psychiatrical description of their origins.

The author has further subdivided her subject matter into problems peculiar to women, those peculiar to men, and those common to both sexes. She gives a bibliography for those desiring further references.

'Any Wife or Any Husband' is partly a guidance on sexual problems in marriage and partly a short text-book on common sexual disorders. The book reads well and should prove of value as a handbook for marriage counsellors and doctors. It is doubtful if it is sufficiently detailed for those interested in psychiatry—and conversely perhaps, too detailed for the average lay couple with sexual difficulties. It could, however, be recommended to suitable couples by their doctors.

P.W.

CORRESPONDENCE : BRIEWERUBRIEK

TEST TUBE BABIES

To the Editor: Dr. Freed's letter[1] in the *Journal* of 9 July 1955 on artificial insemination and consummation is most timely. It can give our legislators an opportunity to enact legislation in this field to compare with our own brilliant Mental Disorders Act, which is a model in its own sphere.

A precise detailed medico-legal (and possibly psychological) definition of 'consummation' is vitally needed—what exactly is it? Specific departures of varying degree may occur as the result of psychological and/or anatomical anomalies, and we should know where to draw a dividing line. We have the problem of 'intersexes' too, and here the absence of any legal definition of 'male' or 'female' is a great pity. What is sex—external appearance, patients' own outlook, anatomical sex, or skin chromosome content?

I agree with Dr. Freed that A.I.D. should not be adultery if all three parties agree (I take it that using semen from a person without consent constitutes assault?) but obviously the donor should not know the parents, and *vice versa*. After all, it is really only adoption made 50% more human and—excuse the word—intrafamilial.

In the case of A.I.D., surely in the birth certificate the husband should fill in his own name as 'father'. Looking at it another way, we have performed a 'human parthenogenesis' where normally no child would have been born. We have produced life. Surely this new life should be free from stigma. And when true chemical parthenogenesis does come, the husband can still be the 'father', and not a chemical formula!

F. I. Jackson

347 Main Road
Sea Point, Cape
13 July, 1955

1. Freed, L. F. (1955): S. Afr. Med. J., **29**, 672.

ACRYLIC ARTHROPLASTY

To the Editor: The original article by Schwartz, Pridie and Eyre-Brook[1] will stimulate a number of surgeons to try this method of hip arthroplasty.

In research of this nature one feels that we should express our gratitude firstly to the 50 patients and then to the operators and of course to the National Health Scheme which makes such a mass experiment possible.

At Baragwanath Hospital 3 years ago Mr. Skapinker suggested this same procedure.

There is an important pre-operative test which I advise should be done by anyone about to perform this operation. The vitallium cup should be held in one hand and the acrylic prosthesis then used like a pestle in the cup as a mortar for a few minutes. Personal experience of this manoeuvre seemed to me to produce quite a considerable amount of acrylic powder. It would be a contribution to our knowledge if readers who try this pestle-and-mortar reaction would write to the *Journal* recording their observations.

One can recall a number of grateful patients treated by simple

relieving capsulectomy aimed at furthering 'eburnation', a name given by observers in pre-jet days to a process adopted by good (or is it now bad?) old mother nature. Unfortunately there do not appear to be any quantitative reports from South Africans of those pre-jet times.

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8 July 1955

1. Schwartz, S., Pridie, K. Q. and Eyre-Brook, A. L. (1955): S. Afr. Med. J., **29**, 622.

TREATMENT OF TUBERCULOSIS BY THE GENERAL PRACTITIONER

To the Editor: Your correspondent Dr. S. B. Sachs[1] in your issue of 2 July 1955 takes me to task for dealing with only one facet of the problem of tuberculosis, viz. my regarding the treatment as one concerned only with the administration of antibiotics. He accuses me of losing sight of the problem of tuberculosis as a whole as a vast socio-medical problem.

Let me quote from the original letter of the Medical Officers of the Alexandra Clinic:[2]

'In spite of the increased simplicity of treatment and the considerable success which has been achieved through domiciliary hospital treatment in many parts of South Africa, it would be extremely unwise, in our opinion, to encourage general practitioners to undertake anti-tuberculosis therapy as a general rule. Patients do not respond uniformly to treatment, and each individual case requires long-term planning and repeated reassessment by specialists. In addition, the ancillary services of contact and source tracing, health education, and social welfare, are indispensable to the conduct of the treatment of tuberculosis.'

In my letter I dealt with the ability of the G.P. to treat tuberculosis, and not with the problem of control, prevention and ultimate eradication of tuberculosis, which so obviously is a socio-medico-political problem that one would be stupid to deny it. Nowhere in my letter is there any suggestion of discrimination as between the treatment of white-skinned and black-skinned patients, nor does the question of fees enter into the discussion at this stage. Despite this, both your correspondents have indicted the G.P. for the manner of his handling of cases of tuberculosis, more particularly with regard to notification.

Dr. Sachs has strayed from the point of issue; what was discussed as a purely medical problem has now been brought into the realm of politics, and therefore much of what he has written is irrelevant. Nevertheless I feel it incumbent on myself to reply to him.

Does Dr. Sachs wish us to believe that only the specialist or our colleagues in full-time institutional practice are the possessors of a social conscience?

To say that tuberculosis is a socio-medical problem and to ascribe the prevalence of it to bad housing, poor wages, and evil social conditions, and not go beyond this statement, does little to alleviate the misery and suffering of the tuberculotic and his family. In my own personal opinion nothing but a complete and radical social transformation can effect any amelioration in the economic and social status of the African. I have yet to learn that either the free health clinics, the medical officers in the health clinics, or specialists, are dispensers of free bread, free housing and higher wages.

E. Meltzer

P.O. Box 543
Benoni
11 July 1955

1. Sachs, S. B. (1955): S. Afr. Med. J., **29**, 648.
2. Cormack, M. A., Hathorn, M. K. S., Stein, Z. A. and Susser, M. W. (1955): *Ibid.*, **29**, 488 (14 May).

ANAL FISSURE

To the Editor: It was gratifying to read Mr. Samuel Skapinker's annotation[1] in the *Journal* of 25 June 1955 affirming the efficacy of internal sphincterotomy in anal fissure as advocated by Mr. Stephen Eisenhammer.[2] Incidentally, he could not have been serious about the usage 'sphincterectomy', but that is by the way.

I was, however (and I am sure many others share my view) mildly amused by his contention that this procedure is outside the scope of the general practitioner. It seems that Mr. Skapinker has a lamentable notion of the capabilities of the general practitioner. A procedure as elementary as the sectioning of the internal anal sphincter under direct vision surely cannot be regarded as exclusive to the lofty domain of the specialist proctologist. It may come as a surprise to Mr. Skapinker to learn that at least this general practitioner (and a few more that I know of) has, *mirabile dictu*, very successfully carried out what he regards as a *noli tangere* for the general practitioner.

It has been said that an intelligent butcher can be taught to perform a Caesarean section, but only a doctor can be expected to know when. In respect of an infinitely less hazardous undertaking like internal anal sphincterotomy, is it too much to credit the general practitioner with the same dexterity? for even an undergraduate should know *when*.

B. du Plessis

Reitz Street
Robertson, C.P.
26 June 1955

1. Skapinker, S. (1955): S. Afr. Med. J., **29**, 624.
2. Eisenhammer, S. (1955): S. Afr. Med. J., **29**, 532.

SPEECH THERAPY AS A HOSPITAL SERVICE

To the Editor: I have read, with great interest, an article with the above title appearing in your *Journal* of 26 March 1955 (p. 297), by Thelma Storr and Diana M. Whiting. It is extremely well written and comprehensive and as a plastic surgeon I welcome this contribution to an important problem. I agree that a speech-therapy department is an essential part of modern hospital services. However, I feel that the case of cleft lip and palate has been given very scanty attention.

In addition one gathers the impression that the speech therapist in South Africa has a much greater responsibility in the diagnostic field than is usual. It is generally conceded that the plastic surgeon should have the sole responsibility for the diagnosis and operative and post-operative treatment of cleft-palate cases. This naturally implies that the plastic surgeon must have the requisite knowledge of the speech mechanism and assessment of the possibilities of speech therapy. There have been very great developments in plastic surgery, especially in relation to cleft palate, in the operative orthodontic and prosthetic fields. Unless there is very close association between plastic surgeon, orthodontist and speech therapist, in the form of regular joint clinics for examination and assessment of new cases and the review of old cases, with speech recordings etc., there is a possibility that speech therapists, working in isolation, may be out of touch with the realities of the case.

Today, the plastic surgeon has many more cards to play than formerly in the problem of speech as related to cleft palate, such as Hyne's pharyngoplasty, V to Y retroposition operation, and closure of palatal defects hitherto considered unbridgeable, by means of tube pedicle flaps, efficient orthodontics and suitable prostheses. If this close liaison exists, then the plastic surgeon will expect the speech therapist to guide him in determining to what extent the speech defect is due to cleft palate, and to what extent to other factors such as deafness, mental retardation etc. It is also extremely useful to hear speech recordings of the cleft-palate case at different stages of each form of treatment, so that the surgeon can assess how much benefit his patient has received at each stage.

In reference to congenital short palate, this condition is now thought by many workers in this field to be rather congenitally large pharynx with a resultant incompetent oro-nasal sphincter.

Finally, while agreeing with the important part the speech therapist has to play in the treatment of cleft-palate cases, one must stress the fact that the speech therapist is a member of a team which is working towards one common goal—normal speech. The way to come as near as possible to this is to diagnose the case early, so that early operation can be carried out before bad speech habits and abnormal cerebral patterns are established. An efficient speech therapist is an essential integral part of any modern plastic-surgery hospital-unit.

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19 June 1955